



# STIC Search Report

**EIC 1700**

**STIC Database Tracking Number: 103832**

**TO: Sin J Lee**  
**Location: CP3 9B05**  
**Art Unit : 1752**  
**September 23, 2003**

**Case Serial Number: 10/080507**

**From: Barba Koroma**  
**Location: EIC 1700**  
**CP3/4-3D62**  
**Phone: 305-3542**

**barba.koroma@uspto.gov**

## Search Notes

Examiner Lee,  
Please find attached results of the search you requested. The list of hits have been printed out to help you look through rapidly, followed by a detailed printout of records. Let me know if you have any questions.  
Thanks.

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Sin J. Lee Examiner #: 76060 Date: 9-12-03  
 Art Unit: 1752 Phone Number 305-0504 Serial Number: 10/080,507  
 Mail Box and Bldg/Room Location: 9B05 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*  
 Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Crosslinking Monomers for Photoresist, and Process for Preparation  
 Inventors (please provide full names): Jung, Jae Chang; Kong, Keun Kyu; Photorealist Polymer;  
Jung, Min Ho; Lee, Geun Su; Baik, Ki Ho. Using the same  
 Earliest Priority Filing Date: 2-22-02

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

— Please search for the copolymer  
 made from the monomer (a) & monomer (b)  
 Shown in Cl. #1.

## STAFF USE ONLY

Searcher: \_\_\_\_\_  
 Searcher Phone #: \_\_\_\_\_  
 Searcher Location: \_\_\_\_\_  
 Date Searcher Picked Up: \_\_\_\_\_  
 Date Completed: \_\_\_\_\_  
 Searcher Prep & Review Time: \_\_\_\_\_  
 Clerical Prep Time: \_\_\_\_\_  
 Online Time: \_\_\_\_\_

## Type of Search

NA Sequence (#) \_\_\_\_\_  
 AA Sequence (#) \_\_\_\_\_  
 Structure (#) \_\_\_\_\_  
 Bibliographic \_\_\_\_\_  
 Litigation \_\_\_\_\_  
 Fulltext \_\_\_\_\_  
 Patent Family \_\_\_\_\_  
 Other \_\_\_\_\_

## Vendors and cost where applicable

STN \_\_\_\_\_  
 Dialog \_\_\_\_\_  
 Questel/Orbit \_\_\_\_\_  
 Dr.Link \_\_\_\_\_  
 Lexis/Nexis \_\_\_\_\_  
 Sequence Systems \_\_\_\_\_  
 WWW/Internet \_\_\_\_\_  
 Other (specify) \_\_\_\_\_

=> file reg

FILE 'REGISTRY' ENTERED AT 13:07:27 ON 23 SEP 2003  
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Property values tagged with IC are from the ZIC/VINITI data file  
provided by InfoChem.

STRUCTURE FILE UPDATES: 22 SEP 2003 HIGHEST RN 591204-55-6  
DICTIONARY FILE UPDATES: 22 SEP 2003 HIGHEST RN 591204-55-6

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP  
PROPERTIES for more information. See STN Note 27, Searching Properties  
in the CAS Registry File, for complete details:  
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=> file caplus

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FILE COVERS 1907 - 23 Sep 2003 VOL 139 ISS 13  
FILE LAST UPDATED: 22 Sep 2003 (20030922/ED)

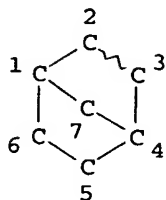
This file contains CAS Registry Numbers for easy and accurate  
substance identification.

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L1

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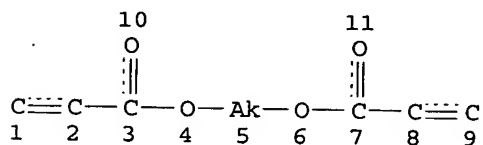
KOROMA EIC1700



NODE ATTRIBUTES:  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 7

STEREO ATTRIBUTES: NONE  
 L8 STR



NODE ATTRIBUTES:  
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 DEFAULT ECLEVEL IS LIMITED  
 ECOUNT IS M1-X10 C AT 5

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE  
 L10 1421 SEA FILE=REGISTRY SSS FUL L1 AND L8  
 L11 792 SEA FILE=CAPLUS ABB=ON PLU=ON L10  
 L12 34 SEA FILE=CAPLUS ABB=ON PLU=ON L11 AND (PHOTORESIS OR RESIST  
 OR PHOTOLITHOGRAPHY)

=> d ti 1-34

L12 ANSWER 1 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Fluorine-containing norbornene polymers and their uses for antireflective  
 films, photosensitive coatings, and **resists**  
 L12 ANSWER 2 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Fluorine-containing norbornene polymers and their uses for antireflective  
 films, photosensitive coatings, and **resists**



- L12 ANSWER 3 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Surface functionalization of thermoplastic polymers for the fabrication of microfluidic devices by photoinitiated grafting
- L12 ANSWER 4 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI A study of high accuracy screen printing method (HADOP) - a HADOP system and optimization of the materials
- L12 ANSWER 5 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Alkali-developable water-based solder photoresist compositions with good screen printability, and their cured films with no pinhole
- L12 ANSWER 6 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Cross-linking monomers for photoresists and preparation of photoresist polymers
- L12 ANSWER 7 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Flame retardant photosolder resist composition and cured solder resist coating for printed circuit board
- L12 ANSWER 8 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Alkaline-developable photosolder resist composition and cured solder resist coating for printed circuit board
- L12 ANSWER 9 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Water-soluble photosolder resist composition and cured solder resist coating for printed circuit board
- L12 ANSWER 10 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Radiation-curable epoxy resin compositions with good storage stability at high temperatures
- L12 ANSWER 11 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Curable resins and their compositions for alkali-developable solder resists with good dielectric properties
- L12 ANSWER 12 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Acrylic photoresist polymers bearing cyclotetrasiloxanyl groups, their preparation, composition, and photolithography thereof
- L12 ANSWER 13 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Light-sensitive photoresist polyurethane oligomer composition and method for pattern formation using same
- L12 ANSWER 14 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Photoresist monomer, photoresist polymer, manufacture of the polymer, photoresist composition, patterning of photoresist, and semiconductor device manufactured by using the photoresist pattern
- L12 ANSWER 15 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Radiation-sensitive chemically amplified resist composition

containing specific copolymer

- L12 ANSWER 16 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Radiation-sensitive resin composition as chemically-amplified photoresist with superior dry etching resistance and resolution for deep UV lithography
- L12 ANSWER 17 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Crosslinking monomer containing double bond and photoresist copolymer containing the same
- L12 ANSWER 18 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Radiation-sensitive polymer composition for photoresist
- L12 ANSWER 19 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Radiation sensitive resin composition
- L12 ANSWER 20 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Radiation-sensitive resin composition
- L12 ANSWER 21 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Radiation-sensitive resin composition
- L12 ANSWER 22 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Fabrication of shadow mask using UV-curable acrylic back coating with excellent pore sealability
- L12 ANSWER 23 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Resist composition and its use for forming patterns
- L12 ANSWER 24 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Acrylic or methacrylic acid derivatives and polymers therefrom useful for resist compositions used in production of semiconductor devices
- L12 ANSWER 25 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Novel (meth)acrylic acid derivatives and curable compositions therefrom with good heat resistance, water resistance, electric insulation properties and adhesion to substrates
- L12 ANSWER 26 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Color filter materials having high transparency and low reflectance and high-definition color filters for liquid crystal displays
- L12 ANSWER 27 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Manufacture of phenolic resins and epoxy resins for laminates, sealants, and solder resists and photocurable compositions
- L12 ANSWER 28 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Photopolymerization initiators for photocurable compositions
- L12 ANSWER 29 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI UV-curable resin compositions for electrically insulating coatings and

colorant compositions containing them

L12 ANSWER 30 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Patterning of gold film

L12 ANSWER 31 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Light-transmitting material and its manufacture, and resin compositions for claddings for light-transmitting materials

L12 ANSWER 32 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Curable polyene-polythiol resin compositions

L12 ANSWER 33 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Polymerizable (meth)allylnorbornene dicarboximide-(meth)acrylate ester compositions

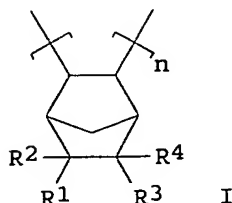
L12 ANSWER 34 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Photocurable flexible inks

=> d ibib abs hitstr ind total

L12 ANSWER 1 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
ACCESSION NUMBER: 2003:368925 CAPLUS  
DOCUMENT NUMBER: 138:386269  
TITLE: Fluorine-containing norbornene polymers and their uses for antireflective films, photosensitive coatings, and resists  
INVENTOR(S): Koga, Tadashi; Maeda, Kazuhiko  
PATENT ASSIGNEE(S): Central Glass Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003137939	A2	20030514	JP 2001-339981	20011105
PRIORITY APPLN. INFO.:			JP 2001-339981	20011105

GI.



AB The polymers comprise .gtoreq.60 mol% norbornene repeating units I (R1-R4 = H, halo, C1-20 alkyl, CO2H, OH, cyano, etc.; .gtoreq.1 of R1-R4 = F-contg. group) and .gtoreq.0.1 mol% repeating units (CH2CR5)R6 (CR7CH2) [R5, R7 = H, F, alkyl, fluoroalkyl; R6 = (ether- or ester-contg.) (fluoro)hydrocarbylene] and are manufd. by polymn. using peroxides at .gtoreq.100.degree.. Thus, 19.27 g 3-(5-bicyclo[2.2.1]hepten-2-yl)-1,1,1-trifluoro-2-(trifluoromethyl)-2-propanol was polymd. with 0.73 g divinyl adipate to give copolymer, which was made into a film showing 650-nm light reflectance 0.98% and good weather resistance.

IT 521947-52-4P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(manuf. of F-contg. norbornene polymers for antireflective films, photosensitive coatings, and resists)

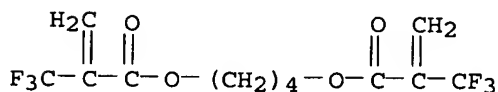
RN 521947-52-4 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-(trifluoromethyl)-, polymer with 1,4-butanediyl bis[2-(trifluoromethyl)-2-propenoate] (9CI) (CA INDEX NAME)

CM 1

CRN 521947-47-7

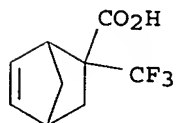
CMF C12 H12 F6 O4



CM 2

CRN 370102-78-6

CMF C9 H9 F3 O2



IC ICM C08F232-04

ICS C07C033-44; C07C061-40; C07C069-653; C08F220-10; C08F220-20;  
C08F220-22; C08F222-06; C08F232-08; G03F007-039

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 38, 74

ST fluoro norbornene polymer antireflective film resist;  
photosensitive coating fluoro norbornene polymer; vinyl adipate

KOROMA EIC1700

fluoronorbornene copolymer antireflective film

IT Coating materials  
 (light-sensitive; manuf. of F-contg. norbornene polymers for antireflective films, photosensitive coatings, and **resists**)

IT Antireflective films  
 Photoresists  
 (manuf. of F-contg. norbornene polymers for antireflective films, photosensitive coatings, and **resists**)

IT Fluoropolymers, preparation  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (manuf. of F-contg. norbornene polymers for antireflective films, photosensitive coatings, and **resists**)

IT Polymerization catalysts  
 (peroxides; manuf. of F-contg. norbornene polymers for antireflective films, photosensitive coatings, and **resists**)

IT Peroxides, uses  
 RL: CAT (Catalyst use); USES (Uses)  
 (polymn. initiators; manuf. of F-contg. norbornene polymers for antireflective films, photosensitive coatings, and **resists**)

IT 80830-27-9P 105935-24-8P 521947-47-7P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (comonomer; manuf. of F-contg. norbornene polymers for antireflective films, photosensitive coatings, and **resists**)

IT 1992-15-0  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (intermediate for comonomer; manuf. of F-contg. norbornene polymers for antireflective films, photosensitive coatings, and **resists**)

IT 521947-49-9P 521947-50-2P 521947-51-3P 521947-52-4P  
 521947-53-5P 521947-54-6P 521947-55-7P 521947-56-8P  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (manuf. of F-contg. norbornene polymers for antireflective films, photosensitive coatings, and **resists**)

IT 196314-61-1P 365568-55-4P 370102-78-6P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (monomer; manuf. of F-contg. norbornene polymers for antireflective films, photosensitive coatings, and **resists**)

IT 110-05-4, Di-tert-butyl peroxide 614-45-9, tert-Butyl peroxybenzoate  
 3457-61-2, tert-Butyl cumyl peroxide 27073-06-9, Di-tert-hexyl peroxide  
 RL: CAT (Catalyst use); USES (Uses)  
 (polymn. initiator; manuf. of F-contg. norbornene polymers for antireflective films, photosensitive coatings, and **resists**)

IT 110-63-4, Butylene glycol, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reactant for comonomer; manuf. of F-contg. norbornene polymers for antireflective films, photosensitive coatings, and **resists**)

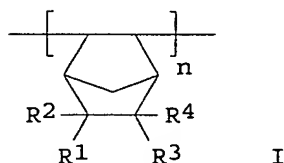
IT 77-73-6, Dicyclopentadiene 115-11-7, Isobutene, reactions 381-98-6, 2-Trifluoromethylacrylic acid 542-92-7, Cyclopentadiene, reactions 646-97-9, 1,1,1-Trifluoro-2-(trifluoromethyl)pent-4-en-2-ol

RL: RCT (Reactant); RACT (Reactant or reagent)  
(reactant for monomer; manuf. of F-contg. norbornene polymers for  
antireflective films, photosensitive coatings, and resists)

L12 ANSWER 2 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
ACCESSION NUMBER: 2003:366812 CAPLUS  
DOCUMENT NUMBER: 138:369658  
TITLE: Fluorine-containing norbornene polymers and their uses  
for antireflective films, photosensitive coatings, and  
resists  
INVENTOR(S): Koga, Tadashi; Maeda, Kazuhiko  
PATENT ASSIGNEE(S): Central Glass Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003137940	A2	20030514	JP 2001-339982	20011105
PRIORITY APPLN. INFO.:			JP 2001-339982	20011105

GI



AB The polymers comprise norbornene repeating units I (R1-R4 = H, halo, C1-20 alkyl, CO2H, OH, cyano, etc.; .gtoreq.1 of R1-R4 = F-contg. group) and repeating units CR5R6R7 (R5, R6 = alkyl, fluoroalkyl; R5 and/or R6 = fluoroalkyl; R7 = O, CH2). Thus, 39.70 g 3-(5-bicyclo[2.2.1]hepten-2-yl)-1,1,1-trifluoro-2-trifluoromethyl-2-propanol was polymd. with 10.30 g (F3C)2CO to give copolymer, which was made into a film showing 650-nm light reflectance 0.98% and good weather resistance.

IT 521949-37-1P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(manuf. of F-contg. norbornene polymers for antireflective films, photosensitive coatings, and resists)

RN 521949-37-1 CAPLUS

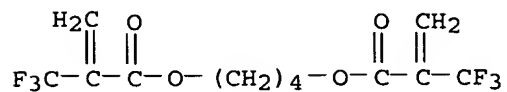
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with .alpha.,.alpha.-bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol, 1,4-butanediyl

bis[2-(trifluoromethyl)-2-propenoate] and 1,1,1,3,3,3-hexafluoro-2-propanone (9CI) (CA INDEX NAME)

CM 1

CRN 521947-47-7

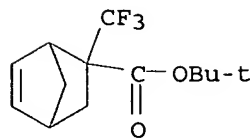
CMF C12 H12 F6 O4



CM 2

CRN 365568-55-4

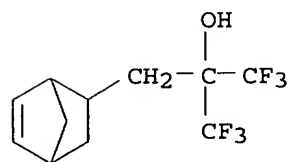
CMF C13 H17 F3 O2



CM 3

CRN 196314-61-1

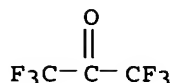
CMF C11 H12 F6 O



CM 4

CRN 684-16-2

CMF C3 F6 O



- IC ICM C08F232-08  
ICS C09D127-12; C09D145-00
- CC 37-3 (Plastics Manufacture and Processing)  
Section cross-reference(s): 38, 74
- ST fluoro norbornene polymer antireflective film **resist**;  
photosensitive coating fluoro norbornene polymer; fluoroacetone  
fluoronorbornene copolymer antireflective film
- IT Polyethers, preparation  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or  
engineered material use); PREP (Preparation); USES (Uses)  
(fluorine-contg.; manuf. of F-contg. norbornene polymers for  
antireflective films, photosensitive coatings, and **resists**)
- IT Coating materials  
(light-sensitive; manuf. of F-contg. norbornene polymers for  
antireflective films, photosensitive coatings, and **resists**)
- IT Antireflective films  
Photoresists  
(manuf. of F-contg. norbornene polymers for antireflective films,  
photosensitive coatings, and **resists**)
- IT Fluoropolymers, preparation  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or  
engineered material use); PREP (Preparation); USES (Uses)  
(manuf. of F-contg. norbornene polymers for antireflective films,  
photosensitive coatings, and **resists**)
- IT Fluoropolymers, preparation  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or  
engineered material use); PREP (Preparation); USES (Uses)  
(polyether-; manuf. of F-contg. norbornene polymers for antireflective  
films, photosensitive coatings, and **resists**)
- IT 521947-47-7P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
(Reactant or reagent)  
(comonomer; manuf. of F-contg. norbornene polymers for antireflective  
films, photosensitive coatings, and **resists**)
- IT 105935-24-8P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
(Reactant or reagent)  
(intermediate for monomer; manuf. of F-contg. norbornene polymers for  
antireflective films, photosensitive coatings, and **resists**)
- IT 521949-34-8P 521949-35-9P 521949-36-0P 521949-37-1P  
521949-38-2P 521949-39-3P  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or  
engineered material use); PREP (Preparation); USES (Uses)  
(manuf. of F-contg. norbornene polymers for antireflective films,  
photosensitive coatings, and **resists**)
- IT 196314-61-1P 365568-55-4P



RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(monomer; manuf. of F-contg. norbornene polymers for antireflective films, photosensitive coatings, and resists)

IT 110-63-4, Butylene glycol, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(reactant for comonomer; manuf. of F-contg. norbornene polymers for antireflective films, photosensitive coatings, and resists)

IT 77-73-6, Dicyclopentadiene 115-11-7, Isobutene, reactions 381-98-6, 2-Trifluoromethylacrylic acid 542-92-7, Cyclopentadiene, reactions 646-97-9, 1,1,1-Trifluoro-2-(trifluoromethyl)pent-4-en-2-ol

RL: RCT (Reactant); RACT (Reactant or reagent)

(reactant for monomer; manuf. of F-contg. norbornene polymers for antireflective films, photosensitive coatings, and resists)

L12 ANSWER 3 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2003:346136 CAPLUS

DOCUMENT NUMBER: 139:150057

TITLE: Surface functionalization of thermoplastic polymers for the fabrication of microfluidic devices by photoinitiated grafting

AUTHOR(S): Rohr, Thomas; Ogletree, D. Frank; Svec, Frantisek; Frechet, Jean M. J.

CORPORATE SOURCE: Materials Sciences Division, E.O. Lawrence Berkeley National Laboratory, Berkeley, CA, 94720, USA

SOURCE: Advanced Functional Materials (2003), 13(4), 264-270  
CODEN: AFMDC6; ISSN: 1616-301X

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Photografting has been used for the surface modification of a wide range of com. commodity polymers such as polystyrene, poly(Me methacrylate), poly(di-Me siloxane), polycarbonate, Parylene C, polypropylene, cyclic olefin copolymer, and hydrogenated polystyrene that are useful substrate materials for the fabrication of microfluidic chips. Since the chain propagation is initiated after UV light-activated abstraction of a hydrogen atom from the surface of channels within the materials, their permeability for UV light was tested and polyolefins were found to be the best candidates. A no. of monomers with a variety of functional groups such as perfluorinated, hydrophobic, hydrophilic, reactive, acidic, basic, and zwitterionic have been successfully grafted from the surface of selected substrates, and the grafting efficiency detd. using X-ray photoemission spectroscopy. Layered surface structures were prepd. by consecutive grafting of different monomers. Our approach also enables photolithog. patterning of surfaces and specific functionalization of confined areas within the microchannel.

IT 572923-55-8P 572923-56-9P

RL: SPN (Synthetic preparation); PREP (Preparation)

(surface functionalization of thermoplastic polymers for fabrication of microfluidic devices by photoinitiated grafting)

RN 572923-55-8 CAPLUS

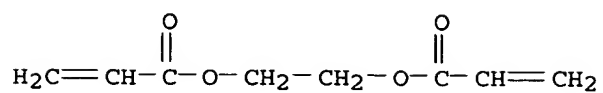
CN 2-Propenoic acid, 1,2-ethanediyl ester, polymer with bicyclo[2.2.1]hept-2-

ene and ethene, graft (9CI) (CA INDEX NAME)

CM 1

CRN 2274-11-5

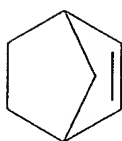
CMF C8 H10 O4



CM 2

CRN 498-66-8

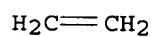
CMF C7 H10



CM 3

CRN 74-85-1

CMF C2 H4



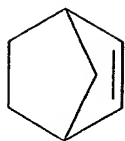
RN 572923-56-9 CAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with bicyclo[2.2.1]hept-2-ene and ethene, graft (9CI) (CA INDEX NAME)

CM 1

CRN 498-66-8

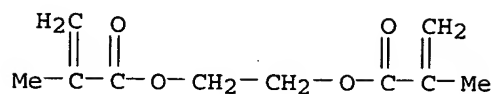
CMF C7 H10



CM 2

CRN 97-90-5

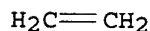
CMF C10 H14 O4



CM 3

CRN 74-85-1

CMF C2 H4



- CC 35-8 (Chemistry of Synthetic High Polymers)
- ST thermoplastic polymer surface functionalization photoinitiated grafting
- IT Borosilicate glasses
  - Polycarbonates, uses
  - Polysiloxanes, uses
- RL: TEM (Technical or engineered material use); USES (Uses)
  - (filter; surface functionalization of thermoplastic polymers for fabrication of microfluidic devices by photoinitiated grafting)
- IT Polymerization
  - (graft, photochem.; surface functionalization of thermoplastic polymers for fabrication of microfluidic devices by photoinitiated grafting)
- IT Contact angle
  - (surface functionalization of thermoplastic polymers for fabrication of microfluidic devices by photoinitiated grafting)
- IT Fluoropolymers, preparation
  - RL: SPN (Synthetic preparation); PREP (Preparation)
  - (surface functionalization of thermoplastic polymers for fabrication of microfluidic devices by photoinitiated grafting)
- IT 9003-07-0, Polypropylene 9003-53-6, Polystyrene 9003-53-6D, Polystyrene, hydrogenated 9003-63-8, Poly(butyl methacrylate) 9011-14-7, PMMA 9016-00-6, PDMS 9052-19-1, Parylene C 14808-60-7, Quartz, uses 31900-57-9, PDMS

RL: TEM (Technical or engineered material use); USES (Uses)  
(filter; surface functionalization of thermoplastic polymers for  
fabrication of microfluidic devices by photoinitiated grafting)

IT 109997-76-4P 113408-85-8P 133097-40-2P 135142-55-1P 180678-83-5P  
572923-71-8P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(surface functionalization of thermoplastic polymers for fabrication of  
microfluidic devices by photoinitiated grafting)

IT 160678-98-8P 160679-00-5P 519142-54-2P 572923-47-8P 572923-48-9P  
572923-49-0P 572923-50-3P 572923-51-4P 572923-52-5P 572923-53-6P  
572923-54-7P 572923-55-8P 572923-56-9P 572923-57-0P  
572923-58-1P 572923-59-2P 572923-60-5P 572923-61-6P 572923-62-7P  
572923-63-8P 572923-64-9P 572923-65-0P 572923-66-1P 572923-67-2P  
572923-68-3P 572923-69-4P 572923-70-7P 572923-72-9P 573673-61-7P  
573673-62-8P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(surface functionalization of thermoplastic polymers for fabrication of  
microfluidic devices by photoinitiated grafting)

REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 4 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2003:340471 CAPLUS

DOCUMENT NUMBER: 139:171210

TITLE: A study of high accuracy screen printing method  
(HADOP) - a HADOP system and optimization of the  
materials

AUTHOR(S): Higuchi, Youichi

CORPORATE SOURCE: Display Components Lab., Dai Nippon Printing Co.,  
Ltd., Kitasaitama-gun, Saitama, 349-1148, Japan

SOURCE: Nippon Insatsu Gakkaishi (2003), 40(1), 33-41  
CODEN: NIGAEV; ISSN: 0914-3319

PUBLISHER: Nippon Insatsu Gakkai

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

AB The invention relates to a new high accuracy screen printing method  
(HADOP: High accuracy and dry on-demand printing) was designed and high  
resoln. printing was achieved. HADOP printing plate and neg.  
resist ink materials were optimized. Neg. resist  
materials for the high resoln. plate and an ink of a certain viscosity  
characteristic were selected, and high accuracy screen printing was  
obtained. The screen plate for HADOP was particularly improved by  
optimization of diam. and mesh angle of the wire, an ink of a high state  
of thixotropy was used because of great important i flatness property of  
ink. As a result, the thixotropic ink could be fixed on a base side of  
plate after passing through the small patterning holes. The sharp imaging  
was performed by increasing the transferring ratio of ink. Thus, isolated  
lines of 40 .mu.m levels were completed by the HADOP method. A superior  
color filter of good color reprodn. was developed by high transparency and  
high transmission factor of the ink constituents.

IT 123535-77-3, Dipentaerythritol hexaacrylate-R 684 copolymer

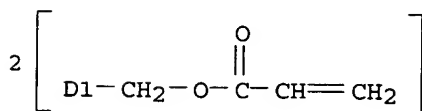
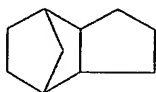
RL: TEM (Technical or engineered material use); USES (Uses)

(high accuracy screen printing method)

RN 123535-77-3 CAPLUS  
 CN 2-Propenoic acid, (octahydro-4,7-methano-1H-indene-5,7-diyl)bis(methylene) ester, polymer with 2-[[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate (9CI) (CA INDEX NAME)

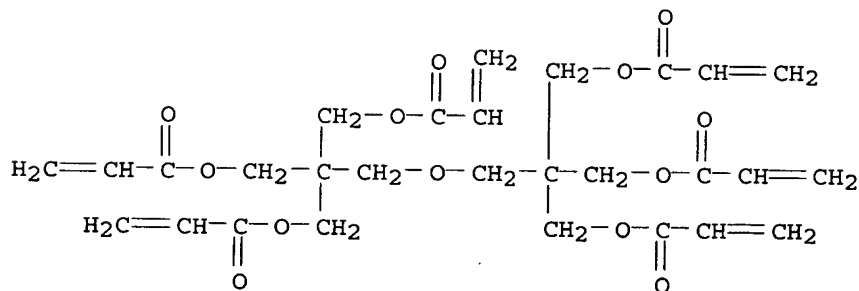
CM 1

CRN 42594-17-2  
 CMF C18 H24 O4  
 CCI IDS



CM 2

CRN 29570-58-9  
 CMF C28 H34 O13



CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 ST accuracy screen printing color filter display  
 IT Color  
 Gel permeation chromatography  
 IR spectra  
 Viscosity

(high accuracy screen printing method)

IT Optical filters  
Optical imaging devices  
Screen printing  
(high accuracy screen printing method (HADOP) - a HADOP system and optimization of materials)

IT Inks  
(silk-screen, EG-Red; **resist** ink for high accuracy screen printing method)

IT Strain  
(sweep; high accuracy screen printing method)

IT 1310-58-3, Potassium hydroxide, processes  
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)  
(developer for high accuracy screen printing method)

IT 1344-28-1, Alumina, processes 2530-85-0, .gamma.-  
Methacryloxypropyltrimethoxysilane 29570-58-9, Dipentaerythritol hexaacrylate  
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)  
(high accuracy screen printing method)

IT 4491-03-6, Bisphenol A diacrylate 64401-02-1, Bisphenol A-ethylene oxide adduct diacrylate 101232-56-8, Dipentaerythritol hexaacrylate-R 128H copolymer 123535-77-3, Dipentaerythritol hexaacrylate-R 684 copolymer 179490-75-6, Dipentaerythritol hexaacrylate-ethoxylated bisphenol A copolymer 577749-25-8, Dipentaerythritol hexaacrylate-MANDA copolymer  
RL: TEM (Technical or engineered material use); USES (Uses)  
(high accuracy screen printing method)

IT 7473-98-5 69432-40-2, TAZ 106  
RL: CAT (Catalyst use); USES (Uses)  
(photopolymn. initiator for high accuracy screen printing method)

IT 78-67-1, AIBN  
RL: CAT (Catalyst use); USES (Uses)  
(polymer for high accuracy screen printing method)

IT 4435-53-4, 3-Methoxybutyl acetate  
RL: NUU (Other use, unclassified); USES (Uses)  
(polymer for high accuracy screen printing method)

IT 209689-00-9P  
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(polymer for high accuracy screen printing method)

IT 193363-36-9, ACA 200  
RL: TEM (Technical or engineered material use); USES (Uses)  
(polymer for high accuracy screen printing method)

IT 147-14-8, C.I. Pigment Blue 15:3 4051-63-2, C.I. Pigment Red 177 14302-13-7, C.I. Pigment Green 36  
RL: NUU (Other use, unclassified); USES (Uses)  
(**resist** ink for high accuracy screen printing method)

IT 154213-94-2, Disperbyk 161  
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)

(resist ink for high accuracy screen printing method)  
 IT 84540-57-8, Propyleneglycol monomethyl ether acetate  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (solvent; resist ink for high accuracy screen printing method)

L12 ANSWER 5 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2003:259907 CAPLUS

DOCUMENT NUMBER: 138:294911

TITLE: Alkali-developable water-based solder photoresist compositions with good screen printability, and their cured films with no pinhole

INVENTOR(S): Yabuuchi, Naoya; Yamada, Atsushi; Nanba, Osamu

PATENT ASSIGNEE(S): Nippon Paint Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003098668	A2	20030404	JP 2001-288690	20010921
PRIORITY APPLN. INFO.:			JP 2001-288690	20010921

AB The compns. comprise (A) aq. solns. of resins having radically polymerizable groups and carboxyl groups that are neutralized by bases, (B) inorg. fillers, (C) photocurable mixts. contg. polyfunctional acrylic monomers, cyclic ether compds., and photoinitiators, and (D) org. solvents with b.p. 180-290.degree.. Screen clogging by quick drying in screen printing is prevented with this invention.

IT 504423-24-9P, Isobornyl methacrylate-methacrylic acid-methyl methacrylate copolymer glycidyl methacrylate ester, triethylamine salt, polymer with GT 401, pentaerythritol tetraacrylate, and trimethylolpropane trimethacrylate

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(alkali-developable aq. solder photoresists with good screen printability and no pinhole)

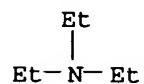
RN 504423-24-9 CAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with methyl 2-methyl-2-propenoate and rel-(1R,2R,4R)-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate, 2-hydroxy-3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl ester, polymer with 2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, Epolead GT 401 and 2-ethyl-2-[(2-methyl-1-oxo-2-propenyl)oxy]methyl-1,3-propanediyl bis(2-methyl-2-propenoate), compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8

CMF C6 H15 N



CM 2

CRN 509084-98-4

CMF (C18 H26 O6 . C17 H20 O8 . (C14 H22 O2 . C5 H8 O2 . C4 H6 O2)x . x C7  
H12 O4 . Unspecified)x

CCI PMS

CM 3

CRN 149984-16-7

CMF Unspecified

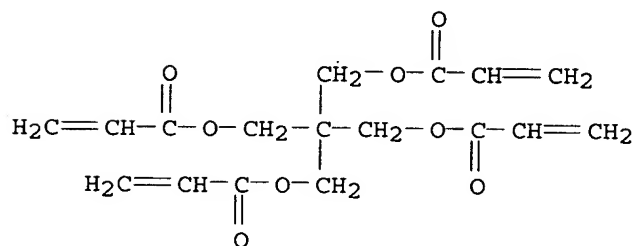
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 4

CRN 4986-89-4

CMF C17 H20 O8

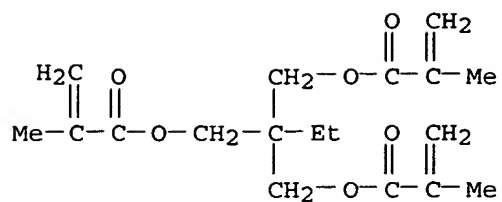


CM 5

CRN 3290-92-4

CMF C18 H26 O6





CM 6

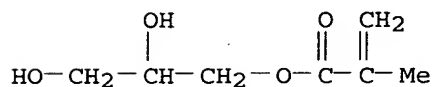
CRN 504423-22-7

CMF (C14 H22 O2 . C5 H8 O2 . C4 H6 O2)x . x C7 H12 O4

CM 7

CRN 5919-74-4

CMF C7 H12 O4



CM 8

CRN 154454-75-8

CMF (C14 H22 O2 . C5 H8 O2 . C4 H6 O2)x

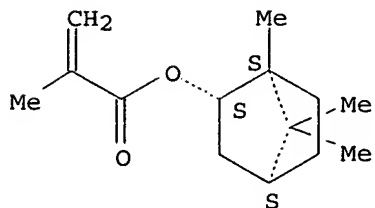
CCI PMS

CM 9

CRN 7534-94-3

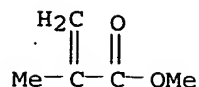
CMF C14 H22 O2

Relative stereochemistry.



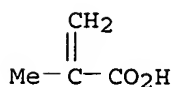
CM 10

CRN 80-62-6  
CMF C5 H8 O2



CM 11

CRN 79-41-4  
CMF C4 H6 O2



- IC ICM G03F007-038  
ICS H05K003-28
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38, 76
- ST solder photoresist aq screen printing anticlogging; acrylic photoresist drying prevention solvent alkali developable
- IT Epoxy resins, preparation  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(acrylic; alkali-developable aq. solder photoresists with good screen printability and no pinhole)
- IT Solvents  
(org., high b.p.; alkali-developable aq. solder photoresists with good screen printability and no pinhole)
- IT Solder resists  
(photoresists; alkali-developable aq. solder photoresists with good screen printability and no pinhole)
- IT Photoresists  
(solder; alkali-developable aq. solder photoresists with good screen printability and no pinhole)
- IT 504423-24-9P, Isobornyl methacrylate-methacrylic acid-methyl methacrylate copolymer glycidyl methacrylate ester, triethylamine salt, polymer with GT 401, pentaerythritol tetraacrylate, and trimethylolpropane trimethacrylate  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(alkali-developable aq. solder photoresists with good screen printability and no pinhole)
- IT 7727-43-7, B 34

RL: TEM (Technical or engineered material use); USES (Uses)  
 (filler, photoresist compns. contg.; alkali-developable aq. solder photoresists with good screen printability and no pinhole)

IT 105-76-0, Dibutyl maleate 122-99-6, Ethylene glycol monophenyl ether 2050-25-1, Diethylene glycol monobenzyl ether 30136-13-1, Propylene glycol monopropyl ether 41593-38-8, Propylene glycol monophenyl ether 63512-36-7, Triethylene glycol dibutyl ether

RL: NUU (Other use, unclassified); USES (Uses)  
 (high b.p. solvent; alkali-developable aq. solder photoresists with good screen printability and no pinhole)

IT 504423-23-8P, Isobornyl methacrylate-methacrylic acid-methyl methacrylate copolymer glycidyl methacrylate ester, triethylamine salt

RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
 (photoresist compns. contg.; alkali-developable aq. solder photoresists with good screen printability and no pinhole)

IT 3290-92-4, Trimethylolpropane trimethacrylate 4986-89-4, Pentaerythritol tetraacrylate 149984-16-7, GT 401

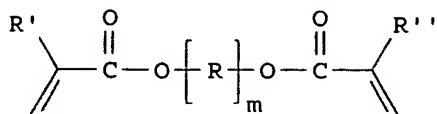
RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)  
 (photoresist compns. contg.; alkali-developable aq. solder photoresists with good screen printability and no pinhole)

L12 ANSWER 6 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2002:907050 CAPLUS  
 DOCUMENT NUMBER: 138:9661  
 TITLE: Cross-linking monomers for photoresists and preparation of photoresist polymers  
 INVENTOR(S): Jung, Jae Chang; Kong, Keun Kyu; Jung, Min Ho; Lee, Geun Su; Baik, Ki Ho  
 PATENT ASSIGNEE(S): Hyundai Electronics Industries Co., Ltd., S. Korea  
 SOURCE: U.S. Pat. Appl. Publ., 10 pp., Cont.-in-part of U.S. Ser. No. 465,111, abandoned.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002177069	A1	20021128	US 2002-80507	20020222
PRIORITY APPLN. INFO.:			KR 1998-63793	A 19981231
			US 1999-465111	B2 19991216

GI



I

AB The present invention discloses a crosslinking monomer represented by the general formula I (R1, R2 = H, CH3; m = 1-10; R = C1-10-alkyl, C1-10-ester, C1-10-ketone, C1-10-carboxylic acid, C1-10-acetal, C1-10 alkyl) and a process for prepg. a photoresist polymer using the crosslinking monomer, and a photoresist polymer. The object of the present invention is to provide a crosslinking monomer for a photoresist polymer which can noticeably improve the polymn. yield of the photoresist polymer. Another object of the present invention is to provide a process for prepg. a photoresist polymer using said crosslinking monomer, and a photoresist polymer.

IT 282529-66-2P 282529-67-3P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(crosslinking monomers for photoresists and prepn. of photoresist polymers)

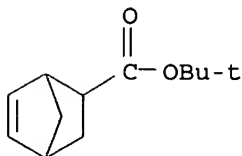
RN 282529-66-2 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, polymer with 1,1-dimethylethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate, 2,5-furandione, 2-hydroxyethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate and 1-methyl-1,3-propanediyl di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 154970-45-3

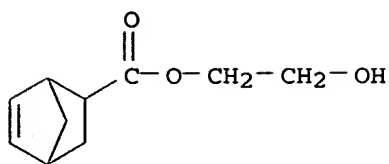
CMF C12 H18 O2



CM 2

CRN 37503-42-7

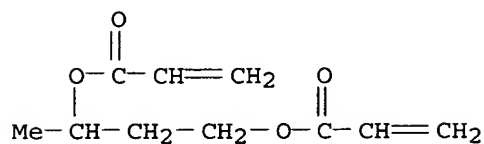
CMF C10 H14 O3



CM 3

CRN 19485-03-1

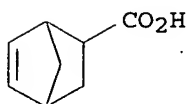
CMF C10 H14 O4



CM 4

CRN 120-74-1

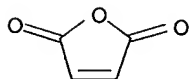
CMF C8 H10 O2



CM 5

CRN 108-31-6

CMF C4 H2 O3



RN 282529-67-3 CAPLUS

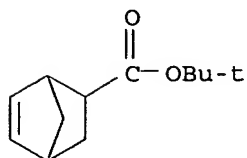
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, polymer with 1,4-butanediyl di-2-propenoate, 1,1-dimethylethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate, 2,5-furandione and 2-hydroxyethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI) (CA INDEX NAME)

KOROMA EIC1700

CM 1

CRN 154970-45-3

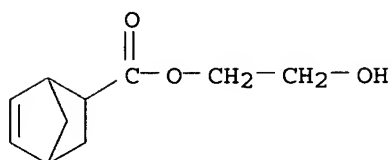
CMF C12 H18 O2



CM 2

CRN 37503-42-7

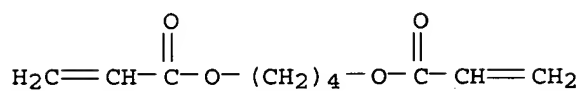
CMF C10 H14 O3



CM 3

CRN 1070-70-8

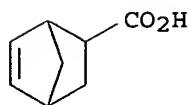
CMF C10 H14 O4



CM 4

CRN 120-74-1

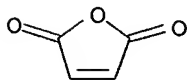
CMF C8 H10 O2



CM 5

CRN 108-31-6

CMF C4 H2 O3



IC ICM G03F007-038  
ICS G03F007-38; G03F007-40; G03F007-32; G03F007-30  
NCL 430270100; 430910000; 430914000; 430325000; 430326000; 430319000;  
560224000; 526272000; 526281000; 526323200  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)  
Section cross-reference(s): 38  
ST photoresist UV crosslinking monomer copolymer prepn photolithog  
IT Photolithography  
Photoresists  
(UV; crosslinking monomers for photoresists and prepn. of photoresist  
polymers)  
IT 282529-66-2P 282529-67-3P  
RL: SPN (Synthetic preparation); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(crosslinking monomers for photoresists and prepn. of photoresist  
polymers)  
IT 75-59-2, Tetramethylammonium hydroxide  
RL: TEM (Technical or engineered material use); USES (Uses)  
(developer; crosslinking monomers for photoresists and prepn. of  
photoresist polymers)  
IT 66003-78-9, Triphenylsulfonium triflate  
RL: TEM (Technical or engineered material use); USES (Uses)  
(photoacid generator; crosslinking monomers for photoresists and prepn.  
of photoresist polymers)  
IT 78-67-1, 2,2'-Azobisisobutyronitrile  
RL: CAT (Catalyst use); USES (Uses)  
(photoinitiator; crosslinking monomers for photoresists and prepn. of  
photoresist polymers)  
IT 109-99-9, Tetrahydrofuran., uses  
RL: NUU (Other use, unclassified); USES (Uses)  
(polymn. solvent; crosslinking monomers for photoresists and prepn. of  
photoresist polymers)  
L12 ANSWER 7 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
ACCESSION NUMBER: 2002:750932 CAPLUS  
DOCUMENT NUMBER: 137:286447  
TITLE: Flame retardant photosolder resist  
composition and cured solder resist coating  
for printed circuit board

KOROMA EIC1700

INVENTOR(S): Yabuuchi, Naoya; Fujita, Minoru; Nanba, Osamu;  
Okajima, Keiichi  
PATENT ASSIGNEE(S): Nippon Paint Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002287358	A2	20021003	JP 2001-92199	20010328
PRIORITY APPLN. INFO.:			JP 2001-92199	20010328

AB The invention relates to a flame retardant photosolder **resist** compn. comprising (A) a resin contg. radical polymerizable groups and carboxylic groups, (B) an inorg. filler, (C) a photocurable mixt. comprised of a polyfunctional acrylic monomer, a cycloether-contg. compd., and a photopolymer. initiator, and (D) nitrogen-contg. resin particles. The photosolder **resist** compn. may contain pigments. The photosolder **resist** compn. is coated on a substrate, dried at 50-90.degree., exposed pattenwisely to an actinic ray, developed with an alk. developer, and baked at 140-170.degree. to obtain the cured solder **resist** coating. The photosolder **resist** compn. shows excellent flame-retardance, developability, solder heat-resistance, gold plating-resistance, thermal shock-resistance, and elec. insulating property.

IT 464896-73-9P, Cyclohexyl methacrylate-glycidyl methacrylate-isobornyl methacrylate-methacrylic acid-pentaerythritol tetraacrylate-trimethylolpropane trimethacrylate copolymer  
464896-74-0P, Glycidyl methacrylate-isobornyl methacrylate-methacrylic acid-methyl methacrylate-styrene-pentaerythritol tetraacrylate-trimethylolpropane trimethacrylate copolymer  
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(cured solder **resist**; flame retardant photosolder **resist** compn. for manufg. printed circuit board)

RN 464896-73-9 CAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with 2,2-bis[[ (1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, cyclohexyl 2-methyl-2-propenoate, 2-ethyl-2-[[ (2-methyl-1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl bis(2-methyl-2-propenoate), oxiranylmethyl 2-methyl-2-propenoate and rel-(1R,2R,4R)-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

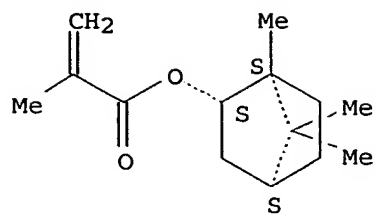
CM 1

CRN 7534-94-3

CMF C14 H22 O2

Relative stereochemistry.

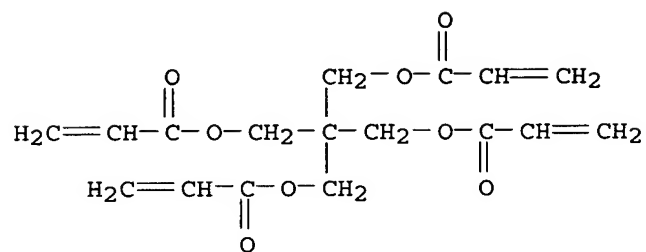




CM 2

CRN 4986-89-4

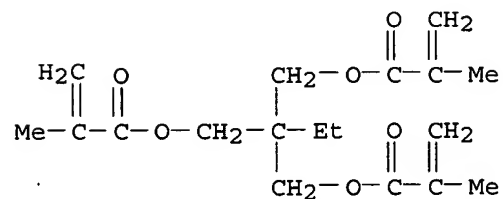
CMF C17 H20 O8



CM 3

CRN 3290-92-4

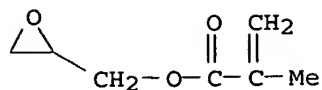
CMF C18 H26 O6



CM 4

CRN 106-91-2

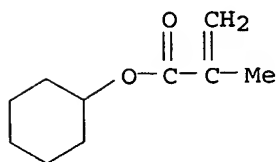
CMF C7 H10 O3



CM 5

CRN 101-43-9

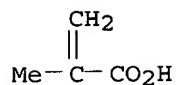
CMF C10 H16 O2



CM 6

CRN 79-41-4

CMF C4 H6 O2



RN 464896-74-0 CAPLUS

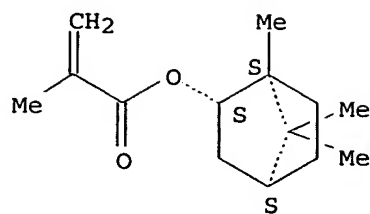
CN 2-Propenoic acid, 2-methyl-, polymer with 2,2-bis[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, ethenylbenzene, 2-ethyl-2-[[[(2-methyl-1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl bis(2-methyl-2-propenoate)], methyl 2-methyl-2-propenoate, oxiranylmethyl 2-methyl-2-propenoate and rel-(1R,2R,4R)-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 7534-94-3

CMF C14 H22 O2

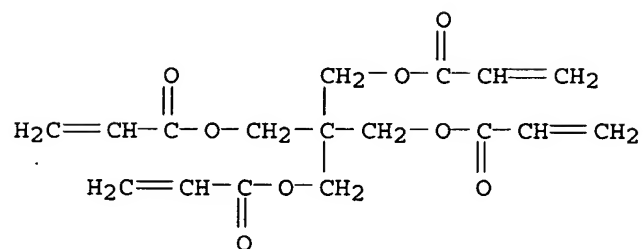
Relative stereochemistry.



CM 2

CRN 4986-89-4

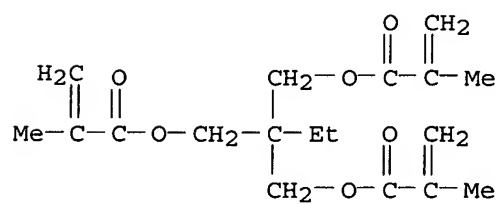
CMF C17 H20 O8



CM 3

CRN 3290-92-4

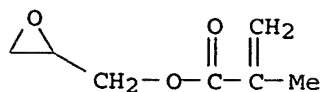
CMF C18 H26 O6



CM 4

CRN 106-91-2

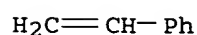
CMF C7 H10 O3



CM 5

CRN 100-42-5

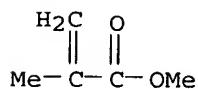
CMF C8 H8



CM 6

CRN 80-62-6

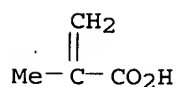
CMF C5 H8 O2



CM 7

CRN 79-41-4

CMF C4 H6 O2



IC ICM G03F007-038

ICS C08F002-44; C08F002-50; C08F265-00; C08F290-00; C08K003-00;  
C08L033-00; C08L063-00; C08L101-02; G03F007-004; G03F007-027;  
G03F007-028; G03F007-032; G03F007-40; H05K003-28

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)

Section cross-reference(s): 38, 76

ST flame retardant photosolder resist compn printed circuit board

IT Fire-resistant materials

Printed circuit boards

(flame retardant photosolder resist compn. and cured solder  
resist coating for printed circuit board)

KOROMA EIC1700

- IT Aminoplasts  
RL: TEM (Technical or engineered material use); USES (Uses)  
(flame retardant; flame retardant photosolder **resist** compn. for manufg. printed circuit board)
- IT Solder **resists**  
(photoresists; flame retardant photosolder **resist** compn. and cured solder **resist** coating for printed circuit board)
- IT Photoresists  
(solder; flame retardant photosolder **resist** compn. and cured solder **resist** coating for printed circuit board)
- IT 7727-43-7, B 34  
RL: TEM (Technical or engineered material use); USES (Uses)  
(B 34; flame retardant photosolder **resist** compn. for manufg. printed circuit board)
- IT 244772-00-7, EHPE 3150  
RL: TEM (Technical or engineered material use); USES (Uses)  
(EHPE 3150; flame retardant photosolder **resist** compn. for manufg. printed circuit board)
- IT 464891-71-2P, Glycidyl methacrylate-isobutyl methacrylate-methacrylic acid-methyl methacrylate-pentaerythritol tetraacrylate-trimethylolpropane trimethacrylate copolymer 464896-73-9P, Cyclohexyl methacrylate-glycidyl methacrylate-isobornyl methacrylate-methacrylic acid-pentaerythritol tetraacrylate-trimethylolpropane trimethacrylate copolymer 464896-74-0P, Glycidyl methacrylate-isobornyl methacrylate-methacrylic acid-methyl methacrylate-styrene-pentaerythritol tetraacrylate-trimethylolpropane trimethacrylate copolymer  
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(cured solder **resist**; flame retardant photosolder **resist** compn. for manufg. printed circuit board)
- IT 428505-58-2P, Cyclohexyl methacrylate-glycidyl methacrylate-isobornyl methacrylate-methacrylic acid copolymer 464891-69-8P, Glycidyl methacrylate-isobornyl methacrylate-methacrylic acid-methyl methacrylate copolymer 464891-70-1P, Glycidyl methacrylate-isobornyl methacrylate-methacrylic acid-methyl methacrylate copolymer triethylamine salt 464896-72-8P, Glycidyl methacrylate-isobornyl methacrylate-methacrylic acid-methyl methacrylate-styrene copolymer  
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(flame retardant photosolder **resist** compn. for manufg. printed circuit board)
- IT 147-14-8, Phthalocyanine blue 4986-89-4, Pentaerythritol tetraacrylate 15625-89-5, Trimethylolpropanetriacrylate  
RL: TEM (Technical or engineered material use); USES (Uses)  
(flame retardant photosolder **resist** compn. for manufg. printed circuit board)
- IT 9003-08-1, Epostar S12 25035-72-7, Epostar M30 26160-89-4, Epostar MS  
RL: TEM (Technical or engineered material use); USES (Uses)  
(flame retardant; flame retardant photosolder **resist** compn. for manufg. printed circuit board)
- IT 71868-10-5, Irgacure 907 100752-97-4, Diethylthioxanthone  
RL: CAT (Catalyst use); USES (Uses)

(photopolymn. initiator; flame retardant photosolder resist  
compn. for manufg. printed circuit board)

L12 ANSWER 8 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2002:748363 CAPLUS

DOCUMENT NUMBER: 137:286359

TITLE: Alkaline-developable photosolder resist  
composition and cured solder resist coating  
for printed circuit board

INVENTOR(S): Yabuuchi, Naoya; Fujita, Minoru; Nanba, Osamu;  
Okajima, Keiichi

PATENT ASSIGNEE(S): Nippon Paint Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002287356	A2	20021003	JP 2001-92197	20010328

PRIORITY APPLN. INFO.: JP 2001-92197 20010328

AB The invention relates to a photosolder resist compn. comprising  
(A) a resin comprised of isobornyl (meth)acrylate, (meth)acrylic acid, and  
glycidyl methacrylate, (B) an inorg. filler, and (C) a photocurable mixt.  
comprised of a polyfunctional acrylic monomer, a cycloether-contg. compd.,  
an amino group-contg. polymerizable compd., and a photopolymn. initiator.  
The photosolder resist compn. may contain pigments. The  
photosolder resist compn. is coated on a substrate, dried at  
50-90.degree., exposed pattenwisely to an actinic ray, developed with an  
alk. developer, and baked at 140-170.degree. to obtain the cured solder  
resist coating. The photosolder resist compn. shows  
excellent photosensitivity, developability, solder heat-resistance, gold  
plating-resistance, thermal shock-resistance, and elec. insulating  
property.

IT 464896-50-2P, Glycidyl methacrylate-isobornyl methacrylate-  
methacrylic acid-methyl methacrylate-Pentaerythritol tetraacrylate-  
Trimethylolpropane triacrylate-dimethylaminopropylmethacrylamide copolymer  
464896-51-3P, 1N,N-Bis[3-(methacryloyloxy)-2-  
hydroxypropyl]isopropylamine-Glycidyl methacrylate-isobornyl  
methacrylate-methacrylic acid-methyl methacrylate-Pentaerythritol  
tetraacrylate-Trimethylolpropane triacrylate copolymer  
464896-52-4P 464896-53-5P 464896-54-6P  
464896-55-7P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)

(cured solder resist; alk.-developable photosolder  
resist compn. for manufg. printed circuit board)

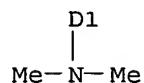
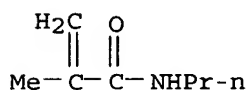
RN 464896-50-2 CAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with 2,2-bis[[1-oxo-2-  
propenyl]oxy]methyl]-1,3-propanediyl di-2-propenoate, N-

[(dimethylamino)propyl]-2-methyl-2-propenamide, 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, methyl 2-methyl-2-propenoate, oxiranylmethyl 2-methyl-2-propenoate and rel-(1R,2R,4R)-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

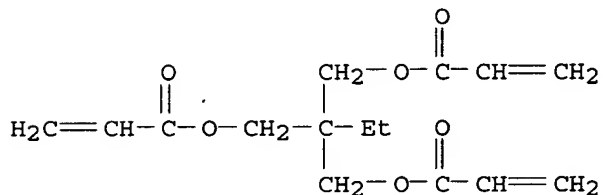
CM 1

CRN 67296-21-3  
CMF C9 H18 N2 O  
CCI IDS



CM 2

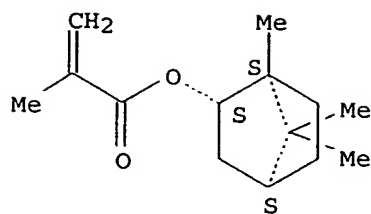
CRN 15625-89-5  
CMF C15 H20 O6



CM 3

CRN 7534-94-3  
CMF C14 H22 O2

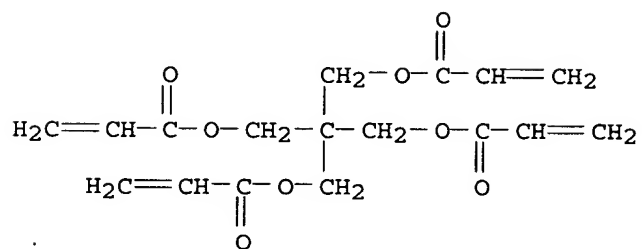
Relative stereochemistry.



CM 4

CRN 4986-89-4

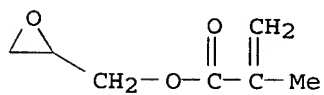
CMF C17 H20 O8



CM 5

CRN 106-91-2

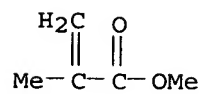
CMF C7 H10 O3



CM 6

CRN 80-62-6

CMF C5 H8 O2

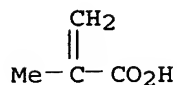




CM 7

CRN 79-41-4

CMF C4 H6 O2



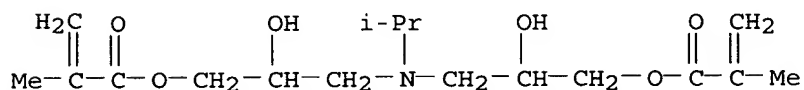
RN 464896-51-3 CAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with 2,2-bis[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, [(1-methylethyl)imino]bis(2-hydroxy-3,1-propanediyl) bis(2-methyl-2-propenoate), methyl 2-methyl-2-propenoate, oxiranylmethyl 2-methyl-2-propenoate and rel-(1R,2R,4R)-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 36196-68-6

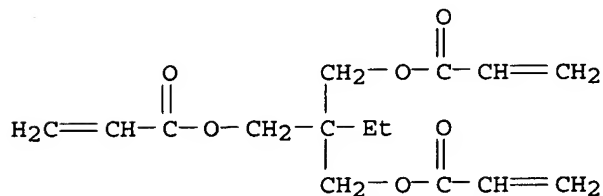
CMF C17 H29 N O6



CM 2

CRN 15625-89-5

CMF C15 H20 O6



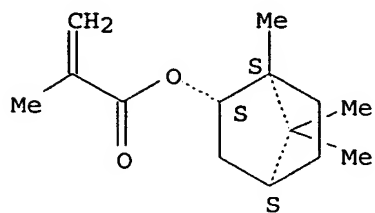
CM 3

CRN 7534-94-3

CMF C14 H22 O2

KOROMA EIC1700

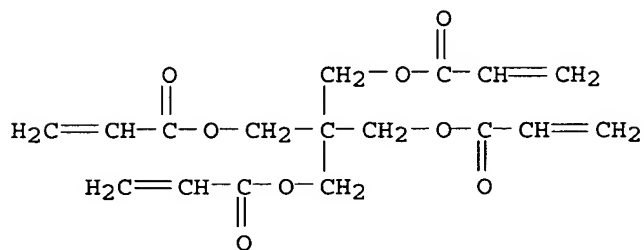
Relative stereochemistry.



CM 4

CRN 4986-89-4

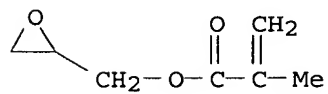
CMF C17 H20 O8



CM 5

CRN 106-91-2

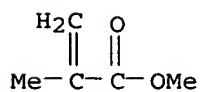
CMF C7 H10 O3



CM 6

CRN 80-62-6

CMF C5 H8 O2

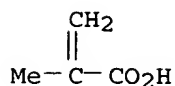


KOROMA EIC1700

CM 7

CRN 79-41-4

CMF C4 H6 O2



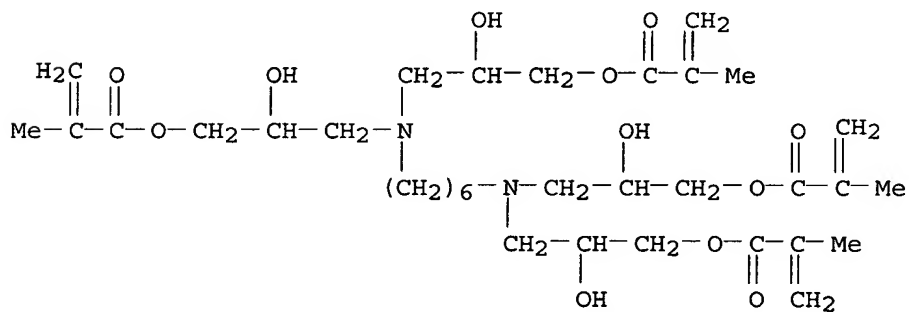
RN 464896-52-4 CAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with 2,2-bis[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, 1,6-hexanediylbis[nitrilobis(2-hydroxy-3,1-propanediyl)] tetrakis(2-methyl-2-propenoate), methyl 2-methyl-2-propenoate, oxiranylmethyl 2-methyl-2-propenoate and rel-(1R,2R,4R)-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 83372-16-1

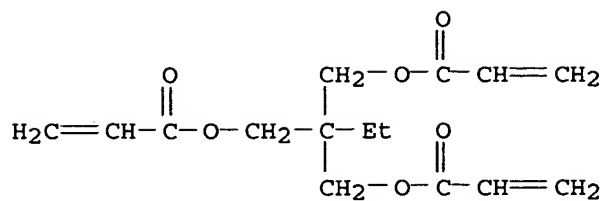
CMF C34 H56 N2 O12



CM 2

CRN 15625-89-5

CMF C15 H20 O6

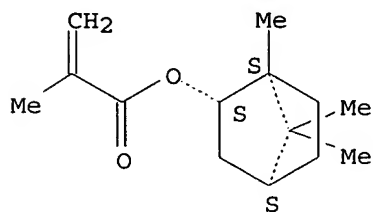


CM 3

CRN 7534-94-3

CMF C14 H22 O2

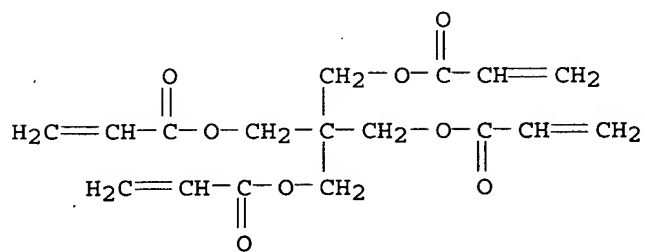
Relative stereochemistry.



CM 4

CRN 4986-89-4

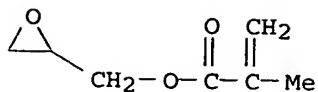
CMF C17 H20 O8



CM 5

CRN 106-91-2

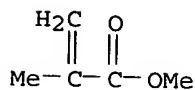
CMF C7 H10 O3



CM 6

CRN 80-62-6

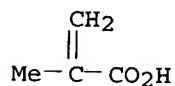
CMF C5 H8 O2



CM 7

CRN 79-41-4

CMF C4 H6 O2



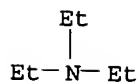
RN 464896-53-5 CAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with 2,2-bis[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, N-[(dimethylamino)propyl]-2-methyl-2-propenamide, 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, methyl 2-methyl-2-propenoate, oxiranylmethyl 2-methyl-2-propenoate and rel-(1R,2R,4R)-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate, compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8

CMF C6 H15 N

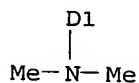
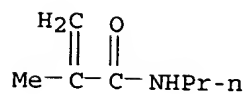


CM 2

CRN 464896-50-2  
 CMF (C17 H20 O8 . C15 H20 O6 . C14 H22 O2 . C9 H18 N2 O . C7 H10 O3 . C5  
 H8 O2 . C4 H6 O2)x  
 CCI PMS

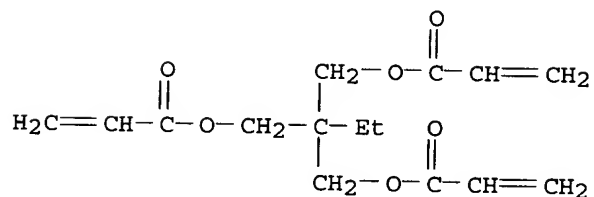
CM 3

CRN 67296-21-3  
 CMF C9 H18 N2 O  
 CCI IDS



CM 4

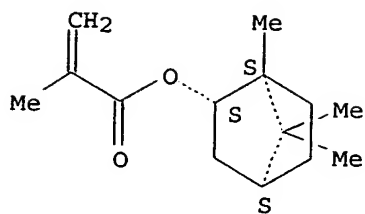
CRN 15625-89-5  
 CMF C15 H20 O6



CM 5

CRN 7534-94-3  
 CMF C14 H22 O2

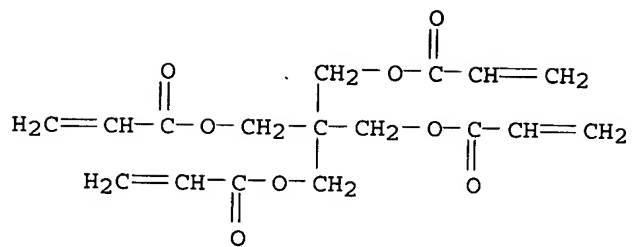
Relative stereochemistry.



CM 6

CRN 4986-89-4

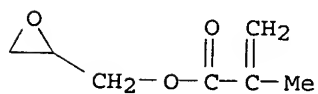
CMF C17 H20 O8



CM 7

CRN 106-91-2

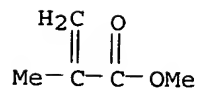
CMF C7 H10 O3



CM 8

CRN 80-62-6

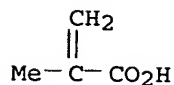
CMF C5 H8 O2



CM 9

CRN 79-41-4

CMF C4 H6 O2



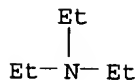
RN 464896-54-6 CAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with 2,2-bis[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, [(1-methylethyl)imino]bis(2-hydroxy-3,1-propanediyl) bis(2-methyl-2-propenoate), methyl 2-methyl-2-propenoate, oxiranylmethyl 2-methyl-2-propenoate and rel-(1R,2R,4R)-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate, compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8

CMF C6 H15 N



CM 2

CRN 464896-51-3

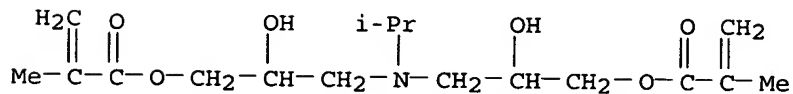
CMF (C17 H29 N O6 . C17 H20 O8 . C15 H20 O6 . C14 H22 O2 . C7 H10 O3 . C5 H8 O2 . C4 H6 O2)x

CCI PMS

CM 3

CRN 36196-68-6

CMF C17 H29 N O6



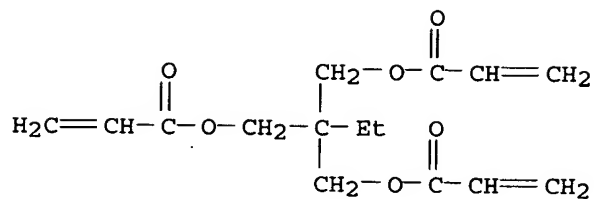
KOROMA EIC1700



CM 4

CRN 15625-89-5

CMF C15 H20 O6

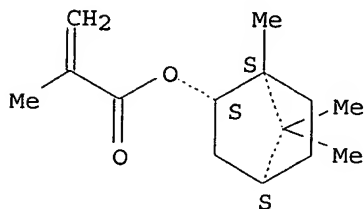


CM 5

CRN 7534-94-3

CMF C14 H22 O2

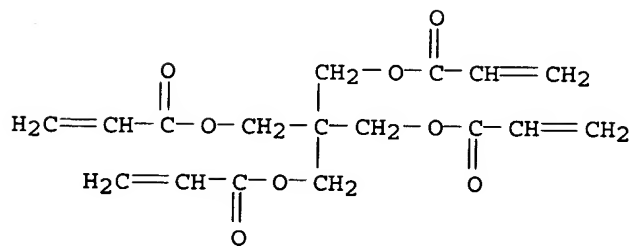
Relative stereochemistry.



CM 6

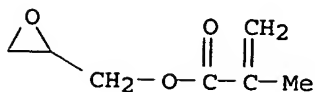
CRN 4986-89-4

CMF C17 H20 O8



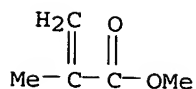
CM 7

CRN 106-91-2  
CMF C7 H10 O3



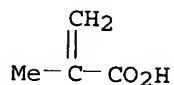
CM 8

CRN 80-62-6  
CMF C5 H8 O2



CM 9

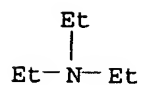
CRN 79-41-4  
CMF C4 H6 O2



RN 464896-55-7 CAPLUS  
CN 2-Propenoic acid, 2-methyl-, polymer with 2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, 1,6-hexanediylbis[nitrilobis(2-hydroxy-3,1-propanediyl)] tetrakis(2-methyl-2-propenoate), methyl 2-methyl-2-propenoate, oxiranylmethyl 2-methyl-2-propenoate and rel-(1R,2R,4R)-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate, compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8  
CMF C6 H15 N



CM 2

CRN 464896-52-4

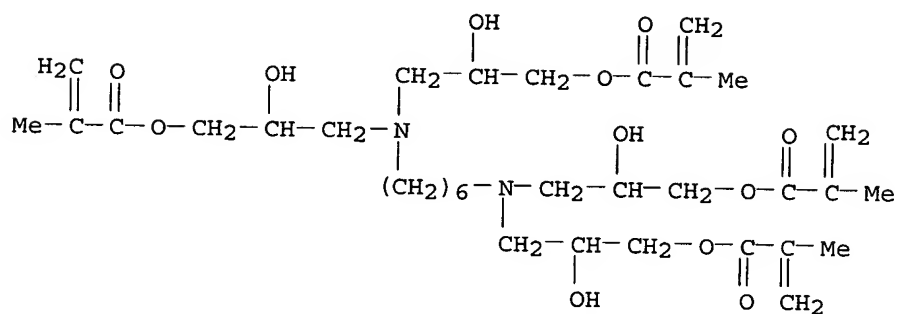
CMF (C34 H56 N2 O12 . C17 H20 O8 . C15 H20 O6 . C14 H22 O2 . C7 H10 O3 . C5 H8 O2 . C4 H6 O2)x

CCI PMS

CM 3

CRN 83372-16-1

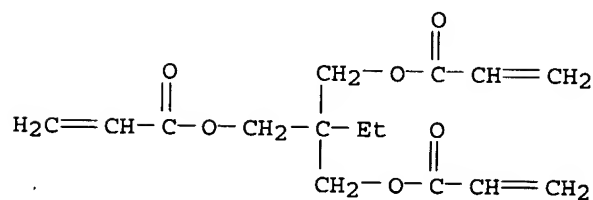
CMF C34 H56 N2 O12



CM 4

CRN 15625-89-5

CMF C15 H20 O6



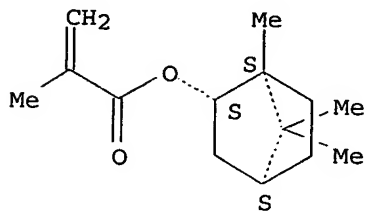
CM 5

CRN 7534-94-3

KOROMA EIC1700

CMF C14 H22 O2

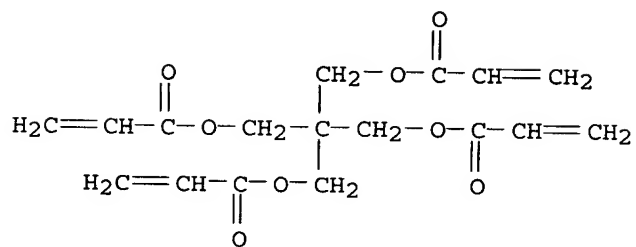
Relative stereochemistry.



CM 6

CRN 4986-89-4

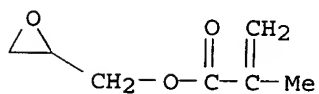
CMF C17 H20 O8



CM 7

CRN 106-91-2

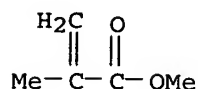
CMF C7 H10 O3



CM 8

CRN 80-62-6

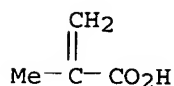
CMF C5 H8 O2



CM 9

CRN 79-41-4

CMF C4 H6 O2



- IC ICM G03F007-038
- ICS C08G059-46; H05K003-28
- CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- Section cross-reference(s): 38, 76
- ST photosolder **resist** compn photoresist solder printed circuit board
- IT Printed circuit boards
- (alk.-developable photosolder **resist** compn. and cured solder **resist** coating for printed circuit board)
- IT Solder **resists**
- (photoresists; alk.-developable photosolder **resist** compn. and cured solder **resist** coating for printed circuit board)
- IT Photoresists
- (solder; alk.-developable photosolder **resist** compn. and cured solder **resist** coating for printed circuit board)
- IT 7727-43-7, B 34
- RL: TEM (Technical or engineered material use); USES (Uses)
- (B 34; alk.-developable photosolder **resist** compn. for manufg. printed circuit board)
- IT 244772-00-7, EHPE 3150
- RL: TEM (Technical or engineered material use); USES (Uses)
- (EHPE 3150; alk.-developable photosolder **resist** compn. for manufg. printed circuit board)
- IT 464891-69-8P, Glycidyl methacrylate-isobornyl methacrylate-methacrylic acid-methyl methacrylate copolymer 464891-70-1P, Glycidyl methacrylate-isobornyl methacrylate-methacrylic acid-methyl methacrylate copolymer triethylamine salt
- RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
- (alk.-developable photosolder **resist** compn. for manufg. printed circuit board)
- IT 147-14-8, Phthalocyanine blue 4986-89-4, Pentaerythritol tetraacrylate 15625-89-5, Trimethylolpropanetriacrylate 36196-68-6 67296-21-3,

Dimethylaminopropylmethacrylamide 83372-16-1

RL: TEM (Technical or engineered material use); USES (Uses)

(alk.-developable photosolder resist compn. for manufg. printed circuit board)

IT 464896-50-2P, Glycidyl methacrylate-isobornyl methacrylate-methacrylic acid-methyl methacrylate-Pentaerythritol tetraacrylate-Trimethylolpropane triacrylate-dimethylaminopropylmethacrylamide copolymer  
464896-51-3P, 1N,N-Bis[3-(methacryloyloxy)-2-hydroxypropyl]isopropylamine-Glycidyl methacrylate-isobornyl methacrylate-methacrylic acid-methyl methacrylate-Pentaerythritol tetraacrylate-Trimethylolpropane triacrylate copolymer  
464896-52-4P 464896-53-5P 464896-54-6P  
464896-55-7P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(cured solder resist; alk.-developable photosolder resist compn. for manufg. printed circuit board)

IT 71868-10-5, Irgacure 907 100752-97-4, Diethylthioxanthone

RL: CAT (Catalyst use); USES (Uses)

(photopolymer. initiator; alk.-developable photosolder resist compn. for manufg. printed circuit board)

L12 ANSWER 9 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2002:748362 CAPLUS

DOCUMENT NUMBER: 137:286439

TITLE: Water-soluble photosolder resist composition and cured solder resist coating for printed circuit board

INVENTOR(S): Yabuuchi, Naoya; Fujita, Minoru; Nanba, Osamu; Okajima, Keiichi

PATENT ASSIGNEE(S): Nippon Paint Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002287355	A2	20021003	JP 2001-92196	20010328
PRIORITY APPLN. INFO.:			JP 2001-92196	20010328

AB The invention relates to a water-sol. photosolder resist compn. comprising (A) an reactive amine salt of a resin comprised of isobornyl (meth)acrylate, (meth)acrylic acid, and glycidyl methacrylate, (B) an inorg. filler, and (C) a photocurable mixt. comprised of a polyfunctional acrylic monomer, a cycloether-contg. compd., and a photopolymer. initiator. The photosolder resist compn. may contain pigments. The photosolder resist compn. is coated on a substrate, dried at 50-90.degree., exposed pattenwisely to an actinic ray, developed with an alk. developer, and baked at 140-170.degree. to obtain the cured solder resist coating. The photosolder resist compn. shows

excellent photosensitivity, developability, solder heat-resistance, gold plating-resistance, thermal shock-resistance, and elec. insulating property and contains reduced amt. of volatile org. compds.

IT 464891-34-7P, Glycidyl methacrylate-isobornyl methacrylate-methacrylic acid-styrene-pentaerythritol tetraacrylate-trimethylolpropane trimethacrylate copolymer dimethylaminopropyl methacrylamide salt  
464891-35-8P, Glycidyl methacrylate-isobornyl methacrylate-methacrylic acid-styrene-pentaerythritol tetraacrylate-trimethylolpropane trimethacrylate copolymer diethylaminoethyl acrylate salt  
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(cured solder resist; water-sol. photosolder resist  
compn. for manufg. printed circuit board)

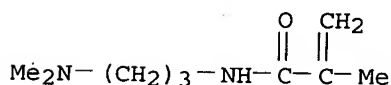
RN 464891-34-7 CAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with 2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, ethenylbenzene, 2-ethyl-2-[[[(2-methyl-1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl bis(2-methyl-2-propenoate), oxiranylmethyl 2-methyl-2-propenoate and rel-(1R,2R,4R)-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate, compd. with N-[3-(dimethylamino)propyl]-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 5205-93-6

CMF C9 H18 N2 O



CM 2

CRN 464891-33-6

CMF (C18 H26 O6 . C17 H20 O8 . C14 H22 O2 . C8 H8 . C7 H10 O3 . C4 H6 O2)x

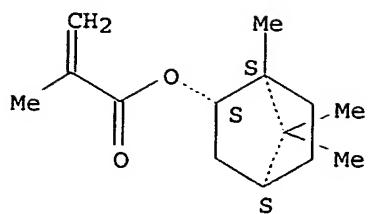
CCI PMS

CM 3

CRN 7534-94-3

CMF C14 H22 O2

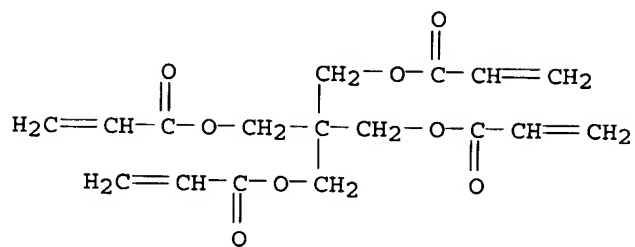
Relative stereochemistry.



CM 4

CRN 4986-89-4

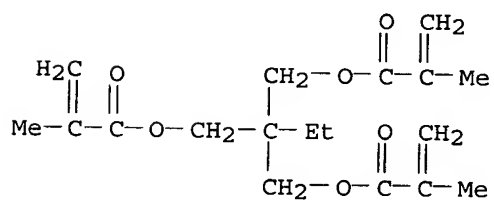
CMF C17 H20 O8



CM 5

CRN 3290-92-4

CMF C18 H26 O6

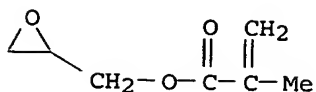


CM 6

CRN 106-91-2

CMF C7 H10 O3

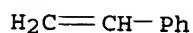




CM 7

CRN 100-42-5

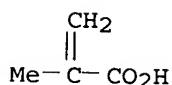
CMF C8 H8



CM 8

CRN 79-41-4

CMF C4 H6 O2



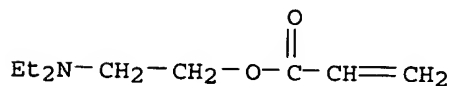
RN 464891-35-8 CAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with 2,2-bis[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, ethenylbenzene, 2-ethyl-2-[[[(2-methyl-1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl bis(2-methyl-2-propenoate)], oxiranylmethyl 2-methyl-2-propenoate and rel-(1R,2R,4R)-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate, compd. with 2-(diethylamino)ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 2426-54-2

CMF C9 H17 N O2



CM 2

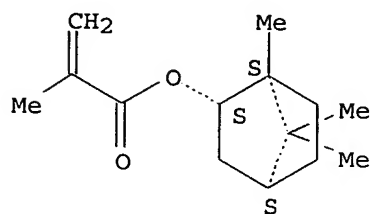
CRN 464891-33-6

CMF (C18 H26 O6 . C17 H20 O8 . C14 H22 O2 . C8 H8 . C7 H10 O3 . C4 H6 O2) x  
 CCI PMS

CM 3

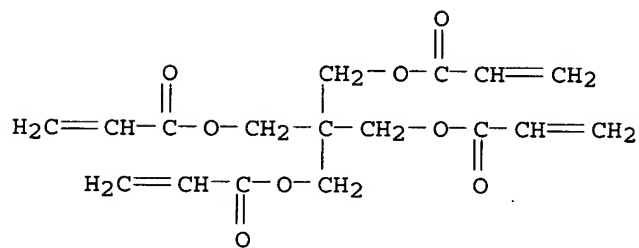
CRN 7534-94-3  
 CMF C14 H22 O2

Relative stereochemistry.



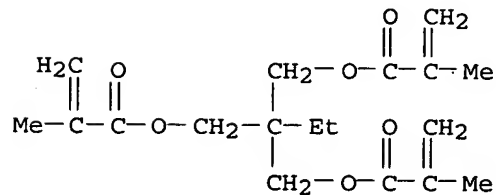
CM 4

CRN 4986-89-4  
 CMF C17 H20 O8



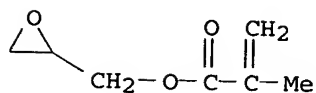
CM 5

CRN 3290-92-4  
 CMF C18 H26 O6



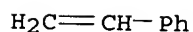
CM 6

CRN 106-91-2  
CMF C7 H10 O3



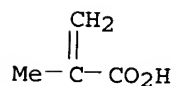
CM 7

CRN 100-42-5  
CMF C8 H8



CM 8

CRN 79-41-4  
CMF C4 H6 O2



IC ICM G03F007-038  
ICS C08G059-42; C08K003-00; C08K005-103; C08L063-00; G03F007-004  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38, 76  
ST water soluble photosolder **resist** compn printed circuit board  
IT Solder **resists**  
(photoresists; water-sol. photosolder **resist** compn. and cured solder **resist** coating for printed circuit board)  
IT Photoresists  
(solder; water-sol. photosolder **resist** compn. and cured solder **resist** coating for printed circuit board)  
IT Printed circuit boards  
(water-sol. photosolder **resist** compn. and cured solder **resist** coating for printed circuit board)  
IT 7727-43-7, B 34  
RL: TEM (Technical or engineered material use); USES (Uses)

KOROMA EIC1700

(B 34; water-sol. photosolder resist compn. for manufg. printed circuit board)

IT 244772-00-7, EHPE 3150  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (EHPE 3150; water-sol. photosolder resist compn. for manufg. printed circuit board)

IT 464891-34-7P, Glycidyl methacrylate-isobornyl methacrylate-methacrylic acid-styrene-pentaerythritol tetraacrylate-trimethylolpropane trimethacrylate copolymer dimethylaminopropyl methacrylamide salt  
 464891-35-8P, Glycidyl methacrylate-isobornyl methacrylate-methacrylic acid-styrene-pentaerythritol tetraacrylate-trimethylolpropane trimethacrylate copolymer diethylaminoethyl acrylate salt  
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (cured solder resist; water-sol. photosolder resist compn. for manufg. printed circuit board)

IT 71868-10-5, Irgacure 907 100752-97-4, Diethylthioxanthone  
 RL: CAT (Catalyst use); USES (Uses)  
 (photopolymer. initiator; water-sol. photosolder resist compn. for manufg. printed circuit board)

IT 464891-30-3P, Glycidyl methacrylate-isobornyl methacrylate-methacrylic acid-styrene copolymer 464891-31-4P 464891-32-5P, Glycidyl methacrylate-isobornyl methacrylate-methacrylic acid-styrene copolymer (diethylamino)ethyl acrylate salt  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (water-sol. photosolder resist compn. for manufg. printed circuit board)

IT 147-14-8, Phthalocyanine blue 4986-89-4, Pentaerythritol tetraacrylate 15625-89-5, Trimethylolpropanetriacrylate  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (water-sol. photosolder resist compn. for manufg. printed circuit board)

L12 ANSWER 10 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2002:688185 CAPLUS

DOCUMENT NUMBER: 137:218079

TITLE: Radiation-curable epoxy resin compositions with good storage stability at high temperatures

INVENTOR(S): Hagiwara, Tsuneo

PATENT ASSIGNEE(S): Teijin Seiki Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.  
 CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002256062	A2	20020911	JP 2001-56834	20010301
PRIORITY APPLN. INFO.:			JP 2001-56834	20010301

AB The compns., useful for stereophotolithog., contain cationically polymerizable compds. contg.  $G-CH_2(OCHR_2CH_2)mOC_6H_4CR_{12}C_6H_4O(CH_2HR_3O)_nCH_2G$  ( $R_1-R_3 = H, Me$ ;  $G = \text{glycidyl}$ ;  $m, n = 1-15$ ), radically polymerizable org. compds., radiation-sensitive cationic initiators, and radiation-sensitive radical initiators. Thus, a compn. contg. 3300 parts mixt. comprising 3,4-epoxycyclohexylmethyl-3,4-epoxycyclohexanecarboxylate 1570, Rikaresin HBE 100 [bisphenol A bis(propylene glycol glycidyl ether) ether] 300, Rikaresin HBE 100 (hydrogenated bisphenol A diglycidyl ether) 200, NK Ester A-BPE 4 [2,2-bis[4-(acryloxydiethoxy)phenyl]propane] 500, ATM 4P (propoxylated trimethylolpropane) 400, A-DCP (dicyclopentadienyl diacrylate) 400, and 3-methyl-3-hydroxymethyloxetane 30 parts, Irgacure 104 (1-hydroxycyclohexyl Ph ketone) 45, and bis[4-(diphenylsulfonio)phenyl]sulfidobishexafluoroantimonate 60 parts showed no apparent viscosity increase at 80.degree. for 17 days.

IT 455935-80-5P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(radiation-curable epoxy resin photolithog. compns. with good storage stability at high temps.)

RN 455935-80-5 CAPLUS

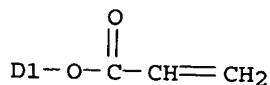
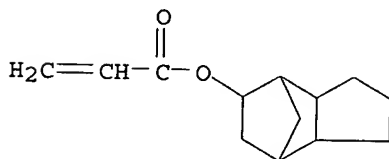
CN 7-Oxabicyclo[4.1.0]heptane-3-carboxylic acid, 7-oxabicyclo[4.1.0]hept-3-ylmethyl ester, polymer with 2,2'-[1,4-butanediylbis(oxyethylene)]bis[oxirane], .alpha.,.alpha.'-[1-methylethylidene]di-4,1-phenylene]bis[.omega.-(oxiranylmethoxy)poly[oxy(methyl-1,2-ethanediyl)]]], 3-methyl-3-oxetanemethanol, octahydro-4,7-methano-1H-indene-5,?-diyl di-2-propenoate and 2-[[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 91433-85-1

CMF C16 H20 O4

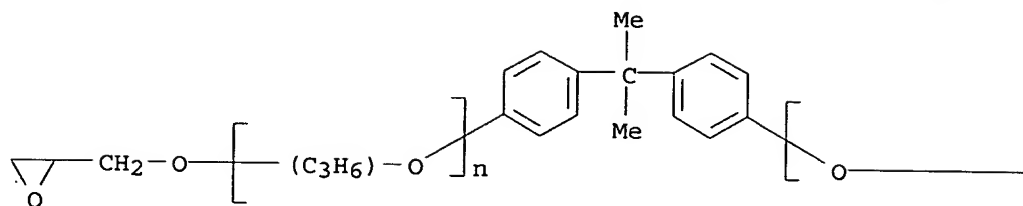
CCI IDS



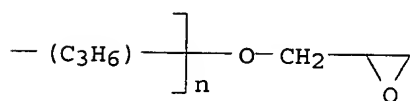
CM 2

CRN 55236-42-5  
 CMF (C3 H6 O)n (C3 H6 O)n C21 H24 O4  
 CCI IDS, PMS

PAGE 1-A

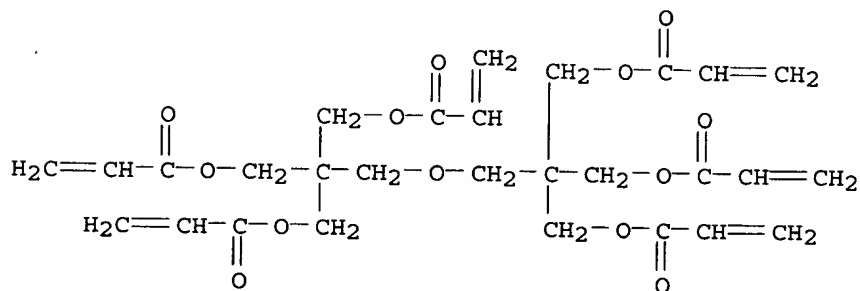


PAGE 1-B



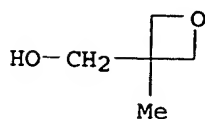
CM 3

CRN 29570-58-9  
 CMF C28 H34 O13



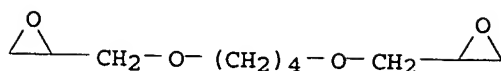
CM 4

CRN 3143-02-0  
 CMF C5 H10 O2



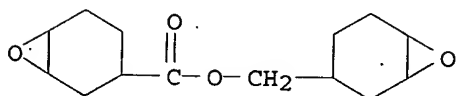
CM 5

CRN 2425-79-8  
CMF C10 H18 O4



CM 6

CRN 2386-87-0  
CMF C14 H20 O4



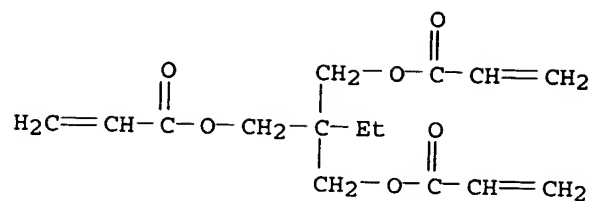
- IC ICM C08G059-68  
ICS G03C003-00
- CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 37, 74
- ST radiation curable acrylic polyoxyalkylene epoxy resin; stereolithog  
radiation curable epoxy resin storage stability
- IT Polyoxyalkylenes, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(acrylic-epoxy; radiation-curable epoxy resin **photolithog.**  
compns. with good storage stability at high temps.)
- IT Epoxy resins, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(acrylic-polyoxyalkylene-; radiation-curable epoxy resin  
**photolithog.** compns. with good storage stability at high  
temps.)
- IT **Photolithography**  
Stereolithography  
(stereolithog.; radiation-curable epoxy resin **photolithog**  
. compns. with good storage stability at high temps.)
- IT 455935-79-2P 455935-80-5P 457067-79-7P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material

use); PREP (Preparation); USES (Uses)  
 (radiation-curable epoxy resin photolithog. compns. with good  
 storage stability at high temps.)

L12 ANSWER 11 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 2002:606427 CAPLUS  
 DOCUMENT NUMBER: 137:177099  
 TITLE: Curable resins and their compositions for  
 alkali-developable solder **resists** with good  
 dielectric properties  
 INVENTOR(S): Takagi, Toru; Otani, Kazuo  
 PATENT ASSIGNEE(S): Showa Highpolymer Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002226560	A2	20020814	JP 2001-22894	20010131
PRIORITY APPLN. INFO.:			JP 2001-22894	20010131
AB	The resins are manufd. by reacting (A) (un)satd. polybasic anhydride and (B) reaction products prepd. from epoxy-contg. ethylenically unsatd. compds. and phenol-modified polybutadiene or polymers of phenols and dicyclopentadiene. The compns. may contain photoinitiators.			
IT	446294-08-2P, DPP-M ester with glycidyl methacrylate and tetrahydrophthalic anhydride, polymer with Light Acrylate TMP-A and 1,3,5-triglycidylisocyanurate			
	RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (alkali-developable permanent solder <b>resists</b> having phenol-contg. polymers and epoxy resins with good dielec. properties)			
RN	446294-08-2 CAPLUS			
CN	2-Propenoic acid, 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with (chloromethyl)oxirane polymer with phenol and 3a,4,7,7a-tetrahydro-4,7-methano-1H-indene hydrogen 4-cyclohexene-1,2-dicarboxylate 2-hydroxy-3-[(2-methyl-i-oxo-2-propenyl)oxy]propyl ester, and 1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione (9CI) (CA INDEX NAME)			
CM	1			
CRN	15625-89-5			
CMF	C15 H20 O6			

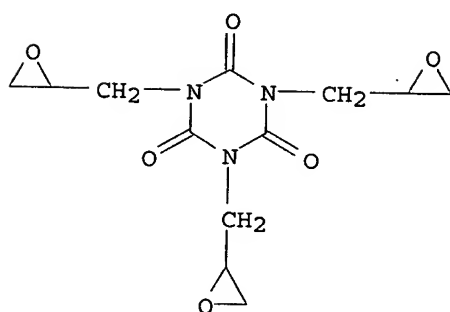




CM 2

CRN 2451-62-9

CMF C12 H15 N3 O6



CM 3

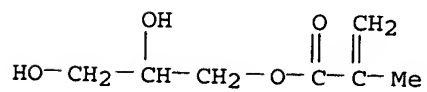
CRN 446294-05-9

CMF (C10 H12 . C6 H6 O . C3 H5 Cl O)x . x C8 H10 O4 . x C7 H12 O4

CM 4

CRN 5919-74-4

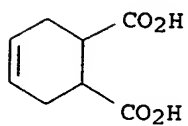
CMF C7 H12 O4



CM 5

CRN 88-98-2

CMF C8 H10 O4



CM 6

CRN 30420-32-7

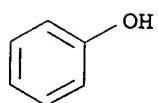
CMF (C10 H12 . C6 H6 O . C3 H5 Cl O) x

CCI PMS

CM 7

CRN 108-95-2

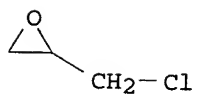
CMF C6 H6 O



CM 8

CRN 106-89-8

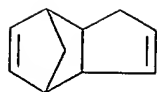
CMF C3 H5 Cl O



CM 9

CRN 77-73-6

CMF C10 H12



IC ICM C08G061-02  
ICS C08G059-42

KOROMA EIC1700

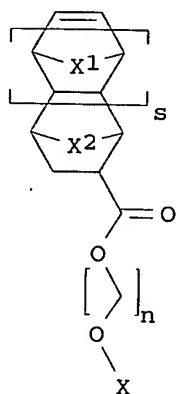
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38, 76
- ST solder **resist** phenolic polybutadiene epoxy dielec; permanent photoresist alkali developable acrylic epoxy dicyclopentadiene
- IT Phenolic resins, preparation  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(acrylic-epoxy; alkali-developable permanent solder **resists** having phenol-contg. polymers and epoxy resins with good dielec. properties)
- IT Epoxy resins, preparation  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(acrylic-phenolic; alkali-developable permanent solder **resists** having phenol-contg. polymers and epoxy resins with good dielec. properties)
- IT Electric insulators  
(alkali-developable permanent solder **resists** having phenol-contg. polymers and epoxy resins with good dielec. properties)
- IT Solder **resists**  
(photoresists; alkali-developable permanent solder **resists** having phenol-contg. polymers and epoxy resins with good dielec. properties)
- IT Photoresists  
(solder; alkali-developable permanent solder **resists** having phenol-contg. polymers and epoxy resins with good dielec. properties)
- IT 77-73-6DP, Dicyclopentadiene, epoxy resins, polymers with phenol-modified polybutadiene ester with glycidyl methacrylate and tetrahydrophthalic anhydride 9003-17-2DP, Polybutadiene, reaction products with phenols, glycidyl methacrylate, tetrahydrophthalic anhydride, polymer with epoxy resins 446294-04-8P, PP 700-300 ester with glycidyl methacrylate and tetrahydrophthalic anhydride, polymer with HP 7200H 446294-06-0P, DPP-M ester with glycidyl methacrylate and tetrahydrophthalic anhydride, polymer with HP 7200H 446294-07-1P, PP 700-300 ester with glycidyl methacrylate and tetrahydrophthalic anhydride, polymer with Light Acrylate TMP-A and 1,3,5-triglycidyl isocyanurate 446294-08-2P, DPP-M ester with glycidyl methacrylate and tetrahydrophthalic anhydride, polymer with Light Acrylate TMP-A and 1,3,5-triglycidylisocyanurate  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(alkali-developable permanent solder **resists** having phenol-contg. polymers and epoxy resins with good dielec. properties)
- L12 ANSWER 12 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
- ACCESSION NUMBER: 2002:129153 CAPLUS
- DOCUMENT NUMBER: 136:191690
- TITLE: Acrylic photoresist polymers bearing cyclotetrasiloxanyl groups, their preparation, composition, and photolithography thereof
- INVENTOR(S): Lee, Geun Su; Koh, Cha Won; Jung, Jae Chang; Jung, Min Ho; Baik, Ki Ho

PATENT ASSIGNEE(S): Hynix Semiconductor Co., Ltd., S. Korea  
 SOURCE: Jpn. Kokai Tokkyo Koho, 22 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

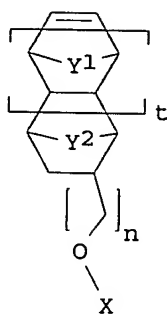
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002053623	A2	20020219	JP 2001-188341	20010621
US 2002028406	A1	20020307	US 2001-852371	20010510
US 6569599	B2	20030527		

PRIORITY APPLN. INFO.:  
 GI

KR 2000-34102 A 20000621



I



II

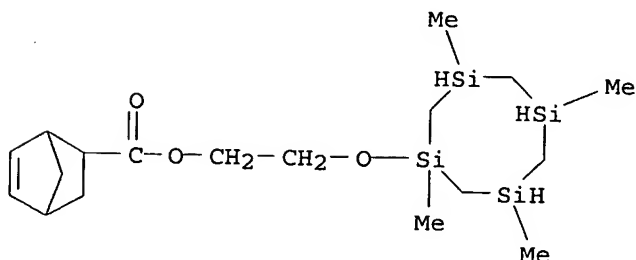
- AB The polymers with mol. wt. 3000-50,000 are prepd. by polymn. of (i) monomers represented by  $R5C(:CH2)CO2(CH2)nOX$  [ $R1-4$  (in X definition) = H, C1-10 alkyl;  $R5$  = H, Me], I ( $X1, X2$  =  $CH2, CH2CH2$ ;  $s$  = 0, 1, 2), and/or II ( $Y1, Y2$  =  $CH2, CH2CH2$ ;  $t$  = 0, 1, 2), (ii)  $R6C(:CH2)(CH2)mCO2R7$  ( $R6$  = H, Me;  $R7$  = acid-labile protective group;  $m$  = 0-5 integer), and (iii) (meth)acrylic acid and may contain crosslinking agents  $R9C(:CH2)CO2CR11R12YCR13R14OCOC(:CH2)R10$  and/or maleic anhydride. The polymers are prepd. by catalyst-assisted polymn. Chem.-amplified pos. photoresists comprising the polymers are also claimed. A bilayer resist process employing the photoresists and underlayers which are chosen from bottom antireflective coatings or i- or g-line photosensitizer coatings, is further claimed. The photoresists keep pattern sharpness during plasma etching for the underlayer patterning.
- IT 399557-23-4P 399557-24-5P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (Si-rich acrylic polymers bearing acid-labile cyclosiloxanyl groups for photoresists with superior etching resistance)
- RN 399557-23-4 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-[(1,3,5,7-tetramethyl-1,3,5,7-tetrasilacyclooct-1-yl)oxy]ethyl ester, polymer with 1,1-dimethylethyl 2-methyl-2-propenoate, 2,5-furandione, 2-methyl-2-propenoic acid and 1,1,4,4-tetramethyl-1,4-butanediyl di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 356043-16-8

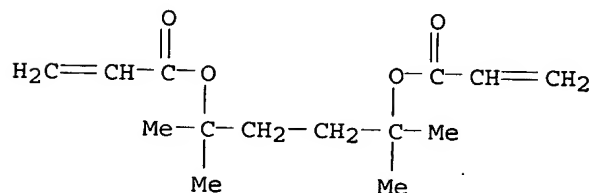
CMF C18 H36 O3 Si4



CM 2

CRN 188837-15-2

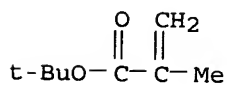
CMF C14 H22 O4



CM 3

CRN 585-07-9

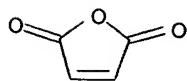
CMF C8 H14 O2



CM 4

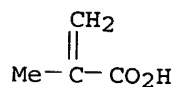
KOROMA EIC1700

CRN 108-31-6  
CMF C4 H2 O3



CM 5

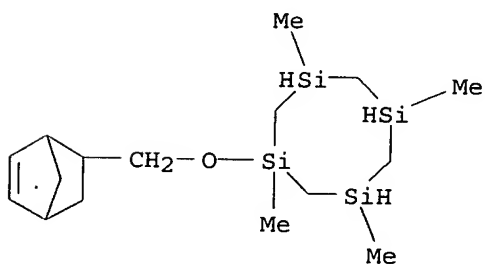
CRN 79-41-4  
CMF C4 H6 O2



RN 399557-24-5 CAPLUS  
CN 2-Propenoic acid, 2-methyl-, polymer with 1-(bicyclo[2.2.1]hept-5-en-2-ylmethoxy)-1,3,5,7-tetramethyl-1,3,5,7-tetrasilacyclooctane, 1,1-dimethylethyl 2-methyl-2-propenoate, 2,5-furandione and 1,1,4,4-tetramethyl-1,4-butanediyl di-2-propenoate (9CI) (CA INDEX NAME)

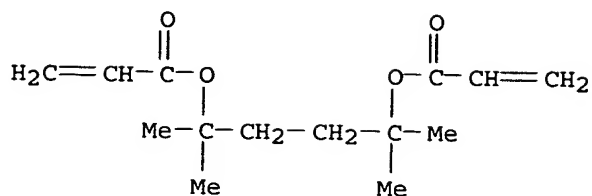
CM 1

CRN 356043-17-9  
CMF C16 H34 O Si4



CM 2

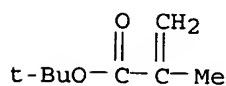
CRN 188837-15-2  
CMF C14 H22 O4



CM 3

CRN 585-07-9

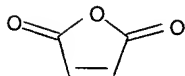
CMF C8 H14 O2



CM 4

CRN 108-31-6

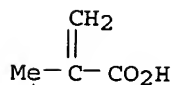
CMF C4 H2 O3



CM 5

CRN 79-41-4

CMF C4 H6 O2



IC ICM C08F230-08

ICS C08F220-28; C08K005-00; C08L101-02; G03F007-004; G03F007-039;  
G03F007-075; G03F007-11; G03F007-26; H01L021-027.

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)

Section cross-reference(s): 38, 76

ST silicon rich acrylic photoresist cyclosiloxanyl protected; amplified  
photoresist acrylic cyclosiloxanyl protective group; semiconductor bilayer

KOROMA EIC1700

- resist photolithog acrylic photoresist**
- IT Semiconductor device fabrication  
(Si-rich acrylic polymers bearing acid-labile cyclosiloxanyl groups for photoresists with superior etching resistance)
- IT Positive photoresists  
(UV, deep-UV, chem. amplified; Si-rich acrylic polymers bearing acid-labile cyclosiloxanyl groups for photoresists with superior etching resistance)
- IT Protective groups  
(acid-labile, cyclotetrasiloxanyl; Si-rich acrylic polymers bearing acid-labile cyclosiloxanyl groups for photoresists with superior etching resistance)
- IT Photolithography  
(bilayer resist process; Si-rich acrylic polymers bearing acid-labile cyclosiloxanyl groups for photoresists with superior etching resistance)
- IT Resists  
(etching, plasma etching; Si-rich acrylic polymers bearing acid-labile cyclosiloxanyl groups for photoresists with superior etching resistance)
- IT Resists  
(radiation-sensitive, polymers; Si-rich acrylic polymers bearing acid-labile cyclosiloxanyl groups for photoresists with superior etching resistance)
- IT 399557-22-3P 399557-23-4P 399557-24-5P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(Si-rich acrylic polymers bearing acid-labile cyclosiloxanyl groups for photoresists with superior etching resistance)
- IT 356043-15-7P 356043-16-8P 356043-17-9P  
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(Si-rich acrylic polymers bearing acid-labile cyclosiloxanyl groups for photoresists with superior etching resistance)
- IT 95-12-5, 5-Norbornene-2-methanol 818-61-1, 2-Hydroxyethyl acrylate 2370-88-9, 2,4,6,8-Tetramethylcyclotetrasiloxane 37503-42-7, 2-Hydroxyethyl 5-norbornene-2-carboxylate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(Si-rich acrylic polymers bearing acid-labile cyclosiloxanyl groups for photoresists with superior etching resistance)

L12 ANSWER 13 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2002:26264 CAPLUS

DOCUMENT NUMBER: 136:93494

TITLE: Light-sensitive photoresist polyurethane oligomer composition and method for pattern formation using same

INVENTOR(S): In, Akira; Kamimo, Masayoshi; Shiota, Makoto

PATENT ASSIGNEE(S): Hitachi Chemical Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent



LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002006485	A2	20020109	JP 2000-192883	20000627
PRIORITY APPLN. INFO.:			JP 2000-192883	20000627

AB The title compn. contains a dispersed polyurethane oligomer and a dispersed resin having carboxylic groups in an aq. soln., wherein the polyurethane oligomer has a hydrophilic anionic groups and a ethylenic unsat. groups. The compn., which contain the polyurethane oligomer and the resin having carboxylic groups, provide resist of little tack and suitable for contact exposure.

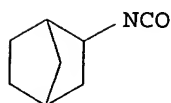
IT 386273-09-2P, PTG 850SN-Dimethylolbutyric acid-2-Hydroxyethyl acrylate-Tripentaerythritol acrylate-Norbornane diisocyanate-Tripropylene glycol diacrylate copolymer  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polyurethane oligomer in photoresist compn.)

RN 386273-09-2 CAPLUS

CN Butanoic acid, bis(hydroxymethyl)-, polymer with 2,5(or 2,6)-diisocyanatobicyclo[2.2.1]heptane, .alpha.-hydro-.omega.-hydroxypoly(oxy-1,4-butanediyl), 2-hydroxyethyl 2-propenoate, 2-(hydroxymethyl)-2-[[ (1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate and (1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

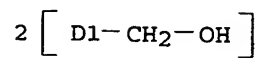
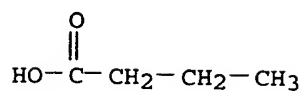
CRN 216224-39-4  
 CMF C9 H10 N2 O2  
 CCI IDS



D1-NCO

CM 2

CRN 56743-27-2  
 CMF C6 H12 O4  
 CCI IDS

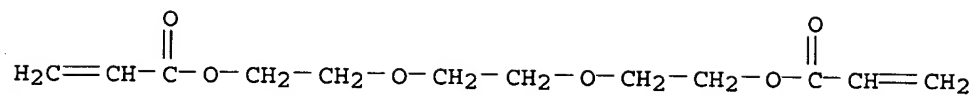


CM 3

CRN 42978-66-5

CMF C15 H24 O6

CCI IDS



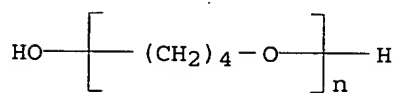
3 ( D1-Me )

CM 4

CRN 25190-06-1

CMF (C4 H8 O)<sub>n</sub> H2 O

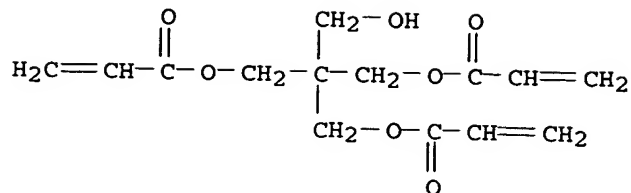
CCI PMS



CM 5

CRN 3524-68-3

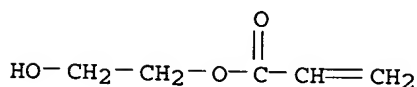
CMF C14 H18 O7



CM 6

CRN 818-61-1

CMF C5 H8 O3



- IC ICM G03F007-027  
ICS C08F002-44; C08F002-50; C08F299-06; C08L033-00; C08L055-00;  
C08L101-08; C08L101-14; G03F007-032; G03F007-033
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)
- ST light sensitive photoresist polyurethane oligomer compn
- IT Polyurethanes, preparation  
RL: SPN (Synthetic preparation); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(acrylates; polyurethane oligomer in photoresist compn.)
- IT Photoresists  
(light-sensitive photoresist polyurethane oligomer compn. and method  
for pattern formation using same)
- IT 386273-08-1P, PTG 850SN-Dimethylolbutyric acid-2-Hydroxyethyl  
acrylate-Tripentaerythritol acrylate-Isophorone diisocyanate-Tripropylene  
glycol diacrylate copolymer 386273-09-2P, PTG  
850SN-Dimethylolbutyric acid-2-Hydroxyethyl acrylate-Tripentaerythritol  
acrylate-Norbornane diisocyanate-Tripropylene glycol diacrylate copolymer  
RL: SPN (Synthetic preparation); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(polyurethane oligomer in photoresist compn.)
- IT 25133-97-5P, Methyl methacrylate/ethyl acrylate/methacrylic acid copolymer  
26915-97-9P, Methyl methacrylate-ethyl acrylate-methacrylic  
acid-2-hydroxyethyl methacrylate copolymer  
RL: SPN (Synthetic preparation); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(resin having carboxylic groups in photoresist compn.)

L12 ANSWER 14 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
ACCESSION NUMBER: 2001:624179 CAPLUS  
DOCUMENT NUMBER: 135:203003

KOROMA EIC1700

TITLE: Photoresist monomer, photoresist polymer, manufacture of the polymer, photoresist composition, patterning of photoresist, and semiconductor device manufactured by using the photoresist pattern

INVENTOR(S): Lee, Keun Soo; Jung, Jae Chang; Jung, Min Ho; Paek, Ki Ho

PATENT ASSIGNEE(S): Hynix Semiconductor, S. Korea

SOURCE: Jpn. Kokai Tokkyo Koho, 24 pp.  
CODEN: JKXXAF

DOCUMENT TYPE: Patent

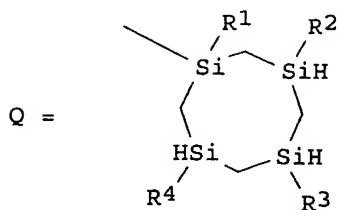
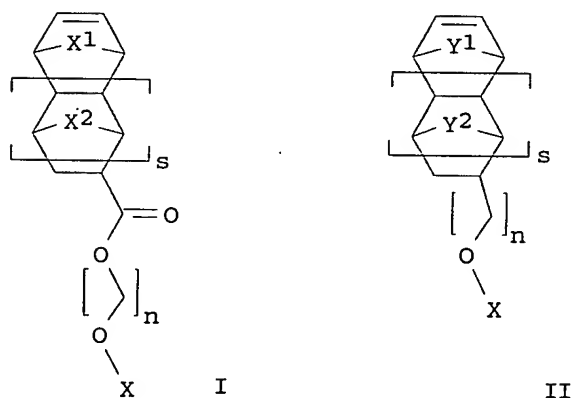
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001233920	A2	20010828	JP 2001-42125	20010219
US 2001031420	A1	20011018	US 2001-788181	20010215
US 6589707	B2	20030708		

PRIORITY APPLN. INFO.: KR 2000-7853 A 20000218  
GI



AB The monomer for photoresist is  $\text{CH}_2\text{:CR}_5\text{CO}_2(\text{CH}_2)_n\text{OX}$  (X = cyclic silyl group Q; R1-R4 = H, C1-10 linear or branched alkyl which may be inserted with

O), I, or II (X1, X2, Y1, Y2 = CH2, CH2CH2; R5 = H, Me; s, t = 0-2; n = 1-5). The photoresist polymer is that involving .gtoreq.1 of the above monomers and the polymer is manufd. by mixing the monomers and polymg. in the presence of a polymn. initiator. The photoresist compn. contains the polymer, a photosensitive acid-generating agent, and an org. solvent. The compn. is applied on a substrate, exposed, and developed to give the pattern which is used in semiconductor device fabrication. The photoresist compn. is suitable for bilayer resist and the photoresist polymer involving Si shows good O2 plasma etching resistance.

IT 356043-19-1P 356043-20-4P 356043-21-5P

RL: DEV (Device component use); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process); USES (Uses)

(polymer involving cyclic silane or alicyclic group for bilayer photoresist for semiconductor device fabrication)

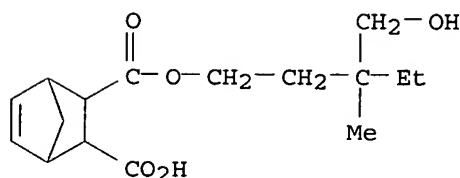
RN 356043-19-1 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic acid, mono[3-(hydroxymethyl)-3-methylpentyl] ester, polymer with 1,1-dimethylethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate, 2,2-dimethyl-1,3-propanediyl di-2-propenoate, 2,5-furandione and 2-[(1,3,5,7-tetramethyl-1,3,5,7-tetrasilacyclooct-1-yl)oxy]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 356043-18-0

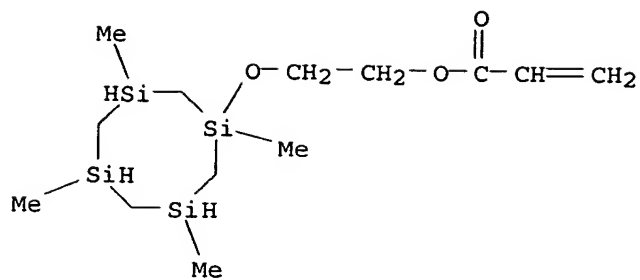
CMF C16 H24 O5



CM 2

CRN 356043-15-7

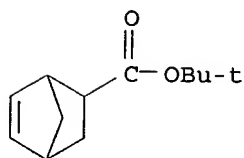
CMF C13 H30 O3 Si4



CM 3

CRN 154970-45-3

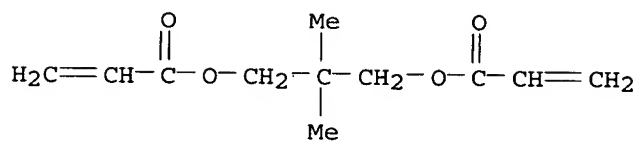
CMF C12 H18 O2



CM 4

CRN 2223-82-7

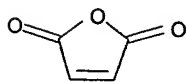
CMF C11 H16 O4



CM 5

CRN 108-31-6

CMF C4 H2 O3



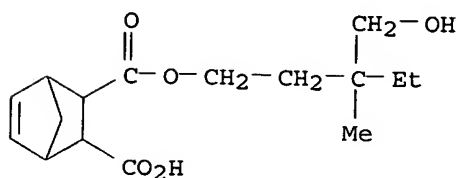
RN 356043-20-4 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic acid, mono[3-(hydroxymethyl)-3-methylpentyl] ester, polymer with 1,1-dimethylethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate, 2,5-furandione, 1,1,4,4-tetramethyl-1,4-butanediyl di-2-propenoate and 2-[(1,3,5,7-tetramethyl-1,3,5,7-tetrasilacyclooct-1-yl)oxy]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 356043-18-0

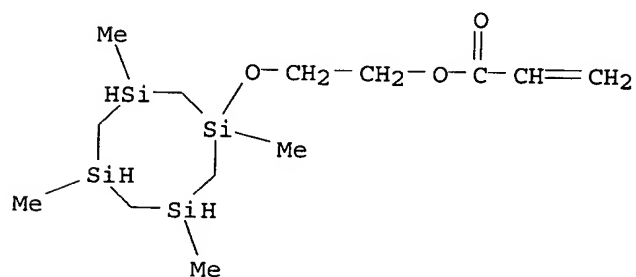
CMF C16 H24 O5



CM 2

CRN 356043-15-7

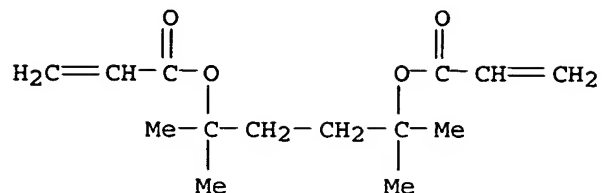
CMF C13 H30 O3 Si4



CM 3

CRN 188837-15-2

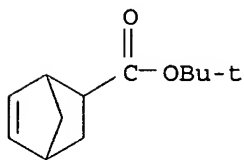
CMF C14 H22 O4



CM 4

CRN 154970-45-3

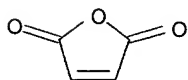
CMF C12 H18 O2



CM 5

CRN 108-31-6

CMF C4 H2 O3



RN 356043-21-5 CAPLUS

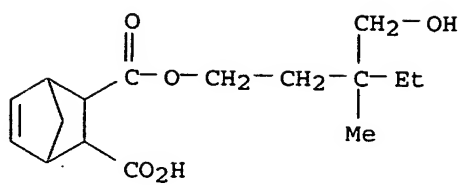
CN Bicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic acid, mono[3-(hydroxymethyl)-3-methylpentyl] ester, polymer with bicyclo[2.2.1]hept-2-ene, 1-(bicyclo[2.2.1]hept-5-en-2-ylmethoxy)-1,3,5,7-tetramethyl-1,3,5,7-tetrasilacyclooctane, 1,1-dimethylethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate, 2,5-furandione and 1,1,4,4-tetramethyl-1,4-butanediyl di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 356043-18-0

CMF C16 H24 O5

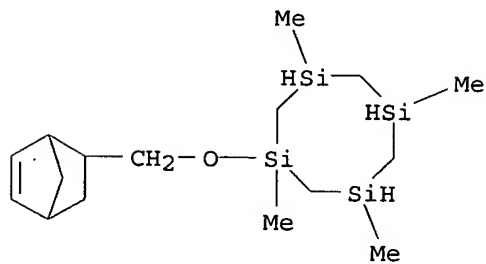




CM 2

CRN 356043-17-9

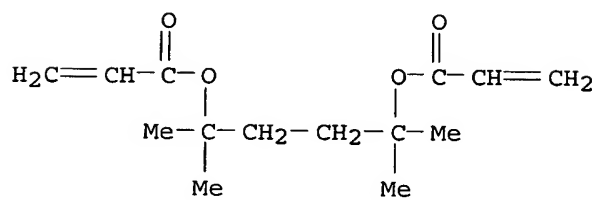
CMF C16 H34 O Si4



CM 3

CRN 188837-15-2

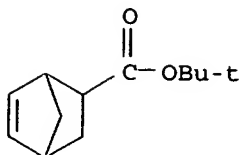
CMF C14 H22 O4



CM 4

CRN 154970-45-3

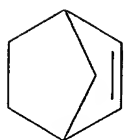
CMF C12 H18 O2



CM 5

CRN 498-66-8

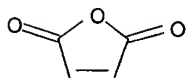
CMF C7 H10



CM 6

CRN 108-31-6

CMF C4 H2 O3



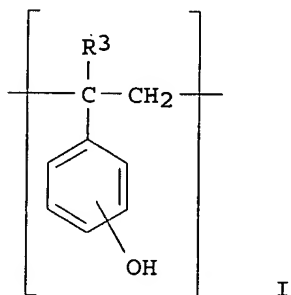
- IC C08F230-08; C07F007-18; C08F002-48; C08F220-20; C08F222-06; C08F232-00; C08F232-04; C08K005-00; C08L033-04; C08L035-00; C08L043-04; C08L045-00; G03F007-039; G03F007-075; G03F007-11; G03F007-26; H01L021-027
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38, 76
- ST photoresist cyclic silyl monomer polymer; alicyclic monomer polymer photoresist; bilayer photoresist semiconductor device fabrication; etching resistance photoresist polymer
- IT **Photolithography**  
(of polymer involving cyclic silane or alicyclic group for bilayer photoresist for semiconductor device fabrication)
- IT Etching  
(plasma, resistance; of polymer involving cyclic silane or alicyclic group for bilayer photoresist for semiconductor device fabrication)
- IT Photoresists  
Semiconductor device fabrication  
(polymer involving cyclic silane or alicyclic group for bilayer

- photoresist for semiconductor device fabrication)
- IT Ligroine  
RL: NUU (Other use, unclassified); USES (Uses)  
(solvent; for prepn. of photoresist compn. contg. polymer involving cyclic silane or alicyclic group)
- IT 52754-92-4, Diphenyliodonium hexafluoroantimonate 57835-99-1, Triphenylsulfonium hexafluorophosphate 57840-38-7, Triphenylsulfonium hexafluoroantimonate 57900-42-2, Triphenylsulfonium hexafluoroarsenate 58109-40-3, Diphenyliodonium hexafluorophosphate 62613-15-4, Diphenyliodonium hexafluoroarsenate 66003-78-9, Triphenylsulfonium triflate 81416-37-7 116808-67-4, Diphenyl-p-methoxyphenylsulfonium triflate 145612-66-4 195245-87-5 255056-42-9  
RL: CAT (Catalyst use); USES (Uses)  
(acid-generating agent; polymer involving cyclic silane or alicyclic group for bilayer photoresist for semiconductor device fabrication)
- IT 818-61-1, 2-Hydroxyethyl acrylate 2370-88-9, 2,4,6,8-Tetramethylcyclotetrasiloxane 37503-42-7, 2-Hydroxyethyl 5-norbornene-2-carboxylate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(monomer from; polymer involving cyclic silane or alicyclic group for bilayer photoresist for semiconductor device fabrication)
- IT 356043-15-7P 356043-16-8P 356043-17-9P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(monomer; polymer involving cyclic silane or alicyclic group for bilayer photoresist for semiconductor device fabrication)
- IT 78-67-1, AIBN 94-36-0, Benzoyl peroxide, uses 110-05-4, tert-Butyl peroxide 110-22-5, Acetyl peroxide 2895-03-6, Lauryl peroxide  
RL: CAT (Catalyst use); USES (Uses)  
(photopolymer. initiator; for prepn. of photoresist polymer involving cyclic silane or alicyclic group)
- IT 356043-19-1P 356043-20-4P 356043-21-5P  
RL: DEV (Device component use); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process); USES (Uses)  
(polymer involving cyclic silane or alicyclic group for bilayer photoresist for semiconductor device fabrication)
- IT 60-29-7, Diethyl ether, uses 64-17-5, Ethanol, uses 67-56-1, Methanol, uses 67-63-0, Isopropyl alcohol, uses 67-64-1, Acetone, uses 67-66-3, Chloroform, uses 67-68-5, DMSO, uses 68-12-2, DMF, uses 71-23-8, Propanol, uses 71-43-2, Benzene, uses 78-93-3, Ethyl methyl ketone, uses 108-88-3, Toluene, uses 109-99-9, THF, uses 110-54-3, Hexane, uses 110-82-7, Cyclohexane, uses 123-91-1, Dioxane, uses 141-78-6, Ethyl acetate, uses 1330-20-7, Xylene, uses  
RL: NUU (Other use, unclassified); USES (Uses)  
(solvent; for prepn. of photoresist compn. contg. polymer involving cyclic silane or alicyclic group)
- IT 108-94-1, Cyclohexanone, uses 120-92-3, Cyclopentanone 763-69-9, Ethyl 3-ethoxypropionate 84540-57-8, Propylene glycol methyl ether acetate  
RL: NUU (Other use, unclassified); USES (Uses)  
(solvent; polymer involving cyclic silane or alicyclic group for bilayer photoresist for semiconductor device fabrication)

L12 ANSWER 15 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 2001:451196 CAPLUS  
 DOCUMENT NUMBER: 135:68548  
 TITLE: Radiation-sensitive chemically amplified  
 resist composition containing specific  
 copolymer  
 INVENTOR(S): Nishimura, Yukio; Kobayashi, Eiichi; Shiotani, Takeo;  
 Shimokawa, Tsutomu  
 PATENT ASSIGNEE(S): JSR Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001166474	A2	20010622	JP 1999-344911	19991203
PRIORITY APPLN. INFO.:			JP 1999-344911	19991203

GI



AB The title compn. contains a radiation-sensitive acid generator and a copolymer having repeating unit  $[-C(R1)(COOR2)-CH2-]$  ( R1 = H, methyl; R2 = C>10 alicyclic) and of repeating unit I ( R3 = H, methyl) with .ltoreq.50 % content. The compn., which contains the copolymer having the aforementioned repeating units, shows the decreased effect of the post exposure delay(PED) on the pattern profiles.

IT 345631-89-2P  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (radiation active chem. amplified resist compn. contg. specific copolymer)

RN 345631-89-2 CAPLUS

CN 2-Propenoic acid, 1,1,4,4-tetramethyl-1,4-butanediyl ester, polymer with [decahydro-6(or 7)-hydroxy-1,4:5,8-dimethanonaphthalen-2-yl]methyl 2-propenoate, 1-(1,1-dimethylethoxy)-4-ethenylbenzene and 4-ethenylphenol

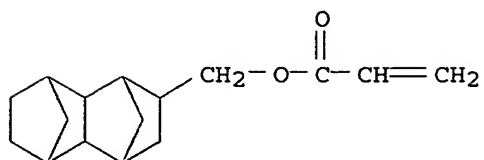
(9CI) (CA INDEX NAME)

CM 1

CRN 345631-87-0

CMF C16 H22 O3

CCI IDS

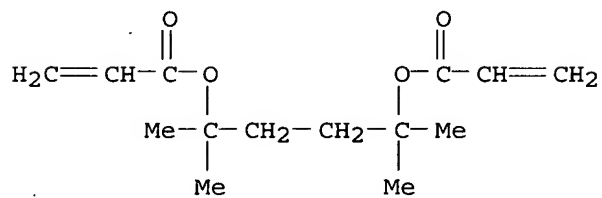


D1-OH

CM 2

CRN 188837-15-2

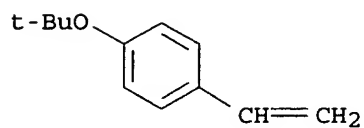
CMF C14 H22 O4



CM 3

CRN 95418-58-9

CMF C12 H16 O

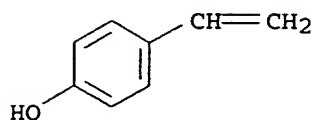


CM 4

CRN 2628-17-3

KOROMA EIC1700

CMF C8 H8 O



IC ICM G03F007-038  
 ICS C08L033-06; G03F007-004; H01L021-027; C08L025-18  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 ST radiation active amplified **resist** compn copolymer  
 IT Light-sensitive materials  
 Photoresists  
 (radiation active chem. amplified **resist** compn. contg. specific copolymer)  
 IT 200808-68-0P, 4-Hydroxystyrene-styrene-tert-butyl acrylate copolymer  
 345348-83-6P 345348-84-7P 345348-85-8P 345631-88-1P  
 345631-89-2P 345631-90-5P 345631-91-6P  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (radiation active chem. amplified **resist** compn. contg. specific copolymer)

L12 ANSWER 16 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 2001:208019 CAPLUS  
 DOCUMENT NUMBER: 134:245232  
 TITLE: Radiation-sensitive resin composition as chemically-amplified photoresist with superior dry etching resistance and resolution for deep UV lithography  
 INVENTOR(S): Douki, Katsuji; Murata, Kiyoshi; Ishii, Hiroyuki; Kajita, Toru; Shimokawa, Tsutomu  
 PATENT ASSIGNEE(S): JSR Corporation, Japan  
 SOURCE: Eur. Pat. Appl., 52 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1085379	A1	20010321	EP 2000-120000	20000914
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2001109157	A2	20010420	JP 1999-291291	19991013
JP 2001209181	A2	20010803	JP 2000-277966	20000913
US 6482568	B1	20021119	US 2000-662160	20000914
PRIORITY APPLN. INFO.:			JP 1999-264110	A 19990917

JP 1999-291291 A 19991013  
JP 1999-325222 A 19991116

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB A radiation-sensitive resin compn. comprises (a) a resin contg. an acid-dissociable group which is insol. or scarcely sol. in alkali and becomes alkali sol. when the acid-dissociable group dissocs., comprising the following recurring unit I, recurring unit II, and at least one of the recurring units III and IV (A, B = H, C1-4-alkyl; X, Y = H, monovalent O or N contg. polar group, X joining together with Y may form dicarboxylic anhydride group; n = 0-2; R1 = H, CH3; R2 = CR33; R3 = monovalent alicyclic hydrocarbon group having 4-20 carbon atoms, its deriv., C1-4-alkyl; R4 = divalent hydrocarbon group having alicyclic skeleton contg. 3-15 carbons), (b) a photoacid generator, (c) an acid diffusion controller, and (d) alicyclic additive. The radiation-sensitive resin compn. is suitable for use as a chem.-amplified **resist** showing sensitivity to active radiation such as deep UV rays represented by a KrF excimer laser or ArF excimer laser, exhibiting superior dry etching resistance without being affected by types of etching gas, having high radiation transmittance, exhibiting excellent basic characteristics as a **resist** such as sensitivity, resoln., and pattern shape, possessing excellent storage stability as a compn., and exhibiting sufficient adhesion to substrates.

IT 330576-39-1P

RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)

(copolymer compns. as chem.-amplified photoresist with superior dry etching resistance, sensitivity and resoln. properties for deep UV lithog.)

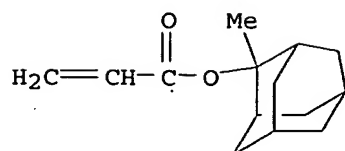
RN 330576-39-1 CAPLUS

CN 2-Propenoic acid, 1,1,4,4-tetramethyl-1,4-butanediyl ester, polymer with 2,5-furandione, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-propenoate and 1,2,3,4,4a,5,8,8a-octahydro-2-methyl-1,4:5,8-dimethanonaphthalene-2-methanol (9CI) (CA INDEX NAME)

CM 1

CRN 249562-06-9

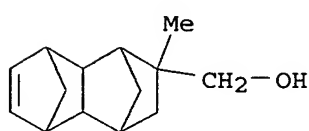
CMF C14 H20 O2



CM 2

CRN 231296-21-2

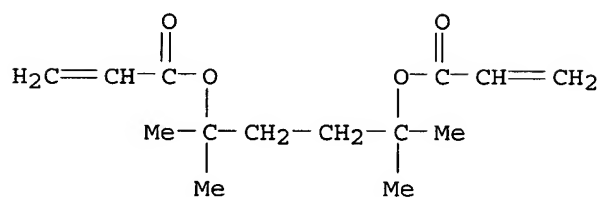
CMF C14 H20 O



CM 3

CRN 188837-15-2

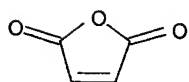
CMF C14 H22 O4



CM 4

CRN 108-31-6

CMF C4 H2 O3



IC ICM G03F007-039

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s) : 38

KOROMA EIC1700



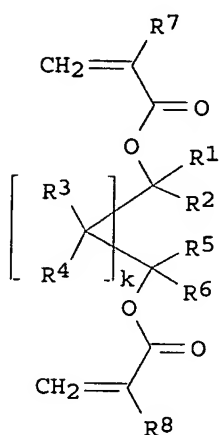
- ST chem amplified photoresist polymer prepn compn deep UV lithog; dry etching resistance sensitivity resoln chem amplified photoresist polymer
- IT Photoresists  
(UV; copolymer compns. as chem.-amplified photoresist with superior dry etching resistance, sensitivity and resoln. properties for deep UV lithog.)
- IT 103-76-4, 1-(2-Hydroxyethyl)piperazine 611-36-9, 4-Hydroxyquinoline 1116-76-3, Tri-n-octylamine 3033-62-3, Bis(2-dimethylaminoethyl)ether 7560-83-0, Methyldicyclohexylamine 193810-83-2 330576-56-2  
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
(acid diffusion controller; copolymer compns. as chem.-amplified photoresist with superior dry etching resistance, sensitivity and resoln. properties for deep UV lithog.)
- IT 330576-37-9P 330576-38-0P 330576-39-1P 330576-41-5P  
330576-42-6P 330576-43-7P 330576-44-8P 330576-46-0P 330576-47-1P  
330576-48-2P 330576-49-3P 330576-51-7P 330576-52-8P 330576-54-0P  
330576-55-1P  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)  
(copolymer compns. as chem.-amplified photoresist with superior dry etching resistance, sensitivity and resoln. properties for deep UV lithog.)
- IT 498-66-8D, Bicyclo[2.2.1]hept-2-ene, imide derivs. 66003-78-9, Triphenylsulfonium trifluoromethanesulfonate 144317-44-2, Triphenylsulfonium nonafluoro-n-butanesulfonate 194999-85-4 209482-18-8 330576-58-4  
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
(photoacid generator; copolymer compns. as chem.-amplified photoresist with superior dry etching resistance, sensitivity and resoln. properties for deep UV lithog.)
- IT 157692-53-0, tert-Butyl deoxycholate 169228-97-1 231296-44-9, t-Butoxycarbonylmethyl deoxycholate  
RL: TEM (Technical or engineered material use); USES (Uses)  
(resist additive; copolymer compns. as chem.-amplified photoresist with superior dry etching resistance, sensitivity and resoln. properties for deep UV lithog.)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

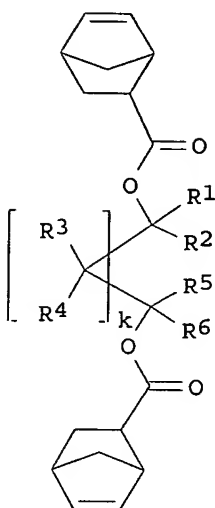
L12 ANSWER 17 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
ACCESSION NUMBER: 2001:150535 CAPLUS  
DOCUMENT NUMBER: 134:200535  
TITLE: Crosslinking monomer containing double bond and photoresist copolymer containing the same  
INVENTOR(S): Lee, Geun Su; Jung, Jae Chang; Baik, Ki Ho  
PATENT ASSIGNEE(S): Hyundai Electronics Industries Co., Ltd., Ichon, S. Korea  
SOURCE: Ger. Offen., 16 pp.  
CODEN: GWXXBX

DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10040963	A1	20010301	DE 2000-10040963	20000822
GB 2354004	A1	20010314	GB 2000-19436	20000809
JP 2001106737	A2	20010417	JP 2000-252762	20000823
PRIORITY APPLN. INFO.: GI			KR 1999-35046 A	19990823



I



II

- AB The photoresist copolymer includes a crosslinking monomer represented by I or II (R1-8 = H, C1-5-alkyl; k = 0-3), and at least one another suitable photoresist monomer. The crosslinking monomer may be selected from 2,5-hexanediol diacrylate, 2,5-hexanediol dimethacrylate, 2,4-pentanediol diacrylate, 2,4-pentanediol dimethacrylate, neopentylglycol diacrylate, and neopentylglycol dimethacrylate. The photoresist copolymer is prepd. and the photoresist compn. is also prepd. The photoresist compn. is sensitive to ArF-, KrF-, VUV-, EUV-light-sources, electron-beam, x-ray, or ion-beam.
- IT 328068-00-4P, Mono-2-ethyl-2-(hydroxymethyl)-butylbicyclo-[2.2.1]-hept-5-ene-2,3-dicarboxylate-maleic acid anhydride-norbornene-tert-butylbicyclo-[2.2.1]-hept-5-ene-2-carboxylate-2,5-hexanediol diacrylate copolymer 328068-01-5P, Mono-2-ethyl-2-(hydroxymethyl)-butylbicyclo-[2.2.1]-hept-5-ene-2,3-dicarboxylate-maleic acid anhydride-norbornene-tert-butylbicyclo-[2.2.1]-hept-5-ene-2-carboxylate-2,4-pentanediol diacrylate copolymer 328068-02-6P, Mono-2-ethyl-2-(hydroxymethyl)-butylbicyclo-[2.2.1]-hept-5-ene-2,3-dicarboxylate-maleic acid anhydride-norbornene-tert-butylbicyclo-[2.2.1]-

hept-5-ene-2-carboxylate-neopentyl glycol diacrylate copolymer  
 328068-03-7P, Mono-2-ethyl-2-(hydroxymethyl)-butylbicyclo-[2.2.1]-  
 hept-5-ene-2,3-dicarboxylate-maleic acid anhydride-norbornene-tert-  
 butylbicyclo-[2.2.1]-hept-5-ene-2-carboxylate-2,5-hexanediol  
 dimethacrylate copolymer 328068-04-8P, Mono-2-ethyl-2-  
 (hydroxymethyl)-butylbicyclo-[2.2.1]-hept-5-ene-2,3-dicarboxylate-maleic  
 acid anhydride-norbornene-tert-butylbicyclo-[2.2.1]-hept-5-ene-2-  
 carboxylate-2,4-pentanediol dimethacrylate copolymer 328068-05-9P  
 , Mono-2-ethyl-2-(hydroxymethyl)-butylbicyclo-[2.2.1]-hept-5-ene-2,3-  
 dicarboxylate-maleic acid anhydride-norbornene-tert-butylbicyclo-[2.2.1]-  
 hept-5-ene-2-carboxylate-neopentyl glycol dimethacrylate copolymer  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material  
 use); PREP (Preparation); USES (Uses)  
 (prepn. of photoresist copolymer contg. crosslinking monomer with  
 double bond)

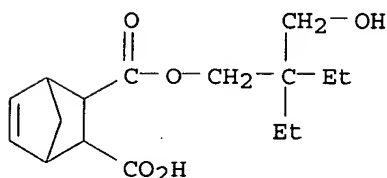
RN 328068-00-4 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic acid, mono[2-ethyl-2-  
 (hydroxymethyl)butyl] ester, polymer with bicyclo[2.2.1]hept-2-ene,  
 1,4-dimethyl-1,4-butanediyl di-2-propenoate, 1,1-dimethylethyl  
 bicyclo[2.2.1]hept-5-ene-2-carboxylate and 2,5-furandione (9CI) (CA INDEX  
 NAME)

CM 1

CRN 250583-69-8

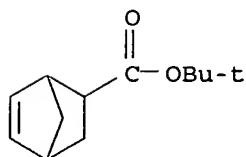
CMF C16 H24 O5



CM 2

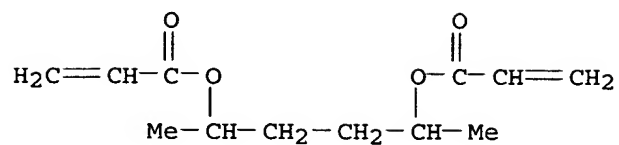
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CMF C12 H18 O2



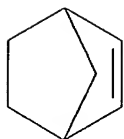
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CRN 85996-28-7  
CMF C12 H18 O4



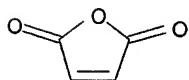
CM 4

CRN 498-66-8  
CMF C7 H10



CM 5

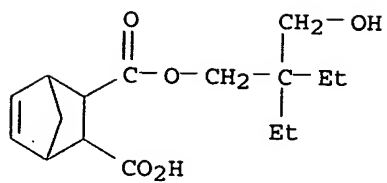
CRN 108-31-6  
CMF C4 H2 O3



RN 328068-01-5 CAPLUS  
CN Bicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic acid, mono[2-ethyl-2-(hydroxymethyl)butyl] ester, polymer with bicyclo[2.2.1]hept-2-ene, 1,1-dimethylethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate, 1,3-dimethyl-1,3-propanediyl di-2-propenoate and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

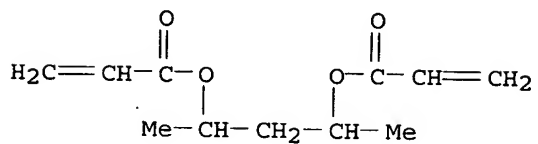
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CMF C16 H24 O5



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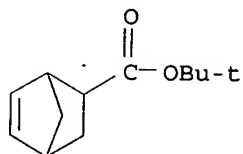
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CM 3

CRN 154970-45-3

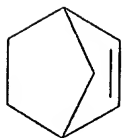
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CM 4

CRN 498-66-8

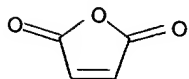
CMF C7 H10



CM 5

CRN 108-31-6

CMF C4 H2 O3



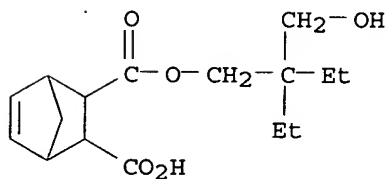
RN 328068-02-6 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic acid, mono[2-ethyl-2-(hydroxymethyl)butyl] ester, polymer with bicyclo[2.2.1]hept-2-ene, 1,1-dimethylethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate, 2,2-dimethyl-1,3-propanediyl di-2-propenoate and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 250583-69-8

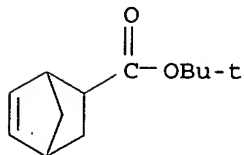
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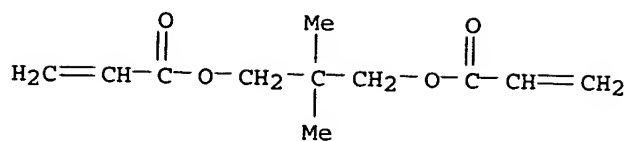
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CM 3

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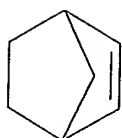
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CM 4

CRN 498-66-8

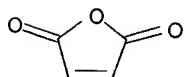
CMF C7 H10



CM 5

CRN 108-31-6

CMF C4 H2 O3



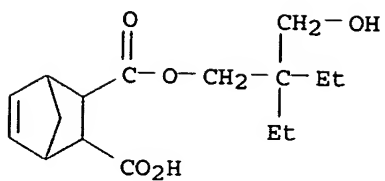
RN 328068-03-7 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic acid, mono[2-ethyl-2-(hydroxymethyl)butyl] ester, polymer with bicyclo[2.2.1]hept-2-ene, 1,4-dimethyl-1,4-butanediyl bis(2-methyl-2-propenoate), 1,1-dimethylethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 250583-69-8

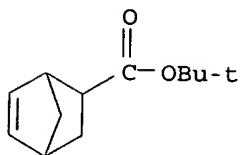
CMF C16 H24 O5



CM 2

CRN 154970-45-3

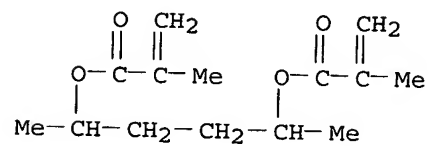
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CM 3

CRN 86336-50-7

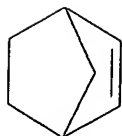
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CM 4

CRN 498-66-8

CMF C7 H10

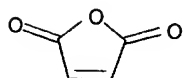




CM 5

CRN 108-31-6

CMF C4 H2 O3



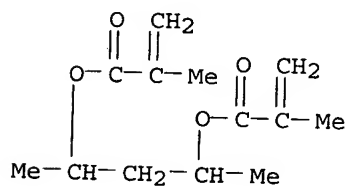
RN 328068-04-8 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic acid, mono[2-ethyl-2-(hydroxymethyl)butyl] ester, polymer with bicyclo[2.2.1]hept-2-ene, 1,1-dimethylethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate, 1,3-dimethyl-1,3-propanediyl bis(2-methyl-2-propenoate) and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 328067-99-8

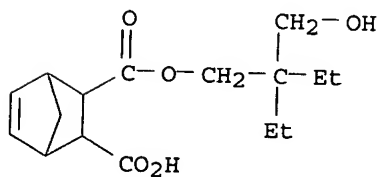
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CM 2

CRN 250583-69-8

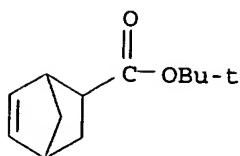
CMF C16 H24 O5



CM 3

CRN 154970-45-3

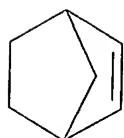
CMF C12 H18 O2



CM 4

CRN 498-66-8

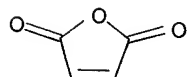
CMF C7 H10



CM 5

CRN 108-31-6

CMF C4 H2 O3



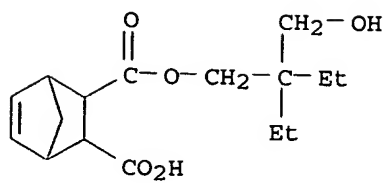
RN 328068-05-9 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic acid, mono[2-ethyl-2-(hydroxymethyl)butyl] ester, polymer with bicyclo[2.2.1]hept-2-ene, 1,1-dimethylethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate, 2,2-dimethyl-1,3-propanediyl bis(2-methyl-2-propenoate) and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 250583-69-8

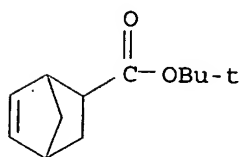
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CM 2

CRN 154970-45-3

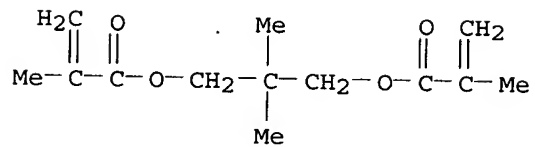
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CM 3

CRN 1985-51-9

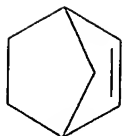
CMF C13 H20 O4



CM 4

CRN 498-66-8

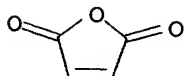
CMF C7 H10



CM 5

CRN 108-31-6

CMF C4 H2 O3



- IC ICM G03F007-039  
ICS C08J007-12
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38, 76
- ST crosslinking monomer photoresist polymer compn prepn
- IT Crosslinking agents  
Electron beam **resists**  
Ion beam **resists**  
Photoresists  
X-ray **resists**  
(crosslinking monomer contg. double bond and photoresist copolymer contg. the same)
- IT Lignoine  
RL: NUU (Other use, unclassified); USES (Uses)  
(prepn. of photoresist copolymer contg. crosslinking monomer with double bond)
- IT 1985-51-9 2223-82-7 85996-28-7, 2,5-Hexanediol diacrylate  
86336-50-7, 2,5-Hexanediol dimethacrylate 184223-36-7, 2,4-Pentanediol diacrylate 328067-99-8, 2,4-Pentanediol dimethacrylate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(crosslinking monomer contg. double bond for photoresist copolymer)
- IT 763-69-9, Ethyl-3-ethoxypropionate  
RL: TEM (Technical or engineered material use); USES (Uses)  
(in photoresist compn. including photoresist copolymer contg. crosslinking monomer with double bond)
- IT 66003-78-9, Triphenylsulfoniumtriflate  
RL: TEM (Technical or engineered material use); USES (Uses)  
(photoacid generator in photoresist compn. including photoresist copolymer contg. crosslinking monomer with double bond)
- IT 78-67-1, AIBN  
RL: CAT (Catalyst use); USES (Uses)  
(prepn. of photoresist copolymer contg. crosslinking monomer with double bond)
- IT 60-29-7, Diethyl ether, uses  
RL: NUU (Other use, unclassified); USES (Uses)  
(prepn. of photoresist copolymer contg. crosslinking monomer with double bond)
- IT 328068-00-4P, Mono-2-ethyl-2-(hydroxymethyl)-butylbicyclo-[2.2.1]-hept-5-ene-2,3-dicarboxylate-maleic acid anhydride-norbornene-tert-butylbicyclo-[2.2.1]-hept-5-ene-2-carboxylate-2,5-hexanediol diacrylate

copolymer 328068-01-5P, Mono-2-ethyl-2-(hydroxymethyl)-butylbicyclo-[2.2.1]-hept-5-ene-2,3-dicarboxylate-maleic acid anhydride-norbornene-tert-butylbicyclo-[2.2.1]-hept-5-ene-2-carboxylate-2,4-pentanediol diacrylate copolymer 328068-02-6P, Mono-2-ethyl-2-(hydroxymethyl)-butylbicyclo-[2.2.1]-hept-5-ene-2,3-dicarboxylate-maleic acid anhydride-norbornene-tert-butylbicyclo-[2.2.1]-hept-5-ene-2-carboxylate-neopentyl glycol diacrylate copolymer 328068-03-7P, Mono-2-ethyl-2-(hydroxymethyl)-butylbicyclo-[2.2.1]-hept-5-ene-2,3-dicarboxylate-maleic acid anhydride-norbornene-tert-butylbicyclo-[2.2.1]-hept-5-ene-2-carboxylate-2,5-hexanediol dimethacrylate copolymer 328068-04-8P, Mono-2-ethyl-2-(hydroxymethyl)-butylbicyclo-[2.2.1]-hept-5-ene-2,3-dicarboxylate-maleic acid anhydride-norbornene-tert-butylbicyclo-[2.2.1]-hept-5-ene-2-carboxylate-2,4-pentanediol dimethacrylate copolymer 328068-05-9P, Mono-2-ethyl-2-(hydroxymethyl)-butylbicyclo-[2.2.1]-hept-5-ene-2,3-dicarboxylate-maleic acid anhydride-norbornene-tert-butylbicyclo-[2.2.1]-hept-5-ene-2-carboxylate-neopentyl glycol dimethacrylate copolymer  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (prepn. of photoresist copolymer contg. crosslinking monomer with double bond)

L12 ANSWER 18 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER:

2001:98659 CAPLUS

DOCUMENT NUMBER:

134:170818

TITLE:

Radiation-sensitive polymer composition for photoresist

INVENTOR(S):

Nishimura, Yukio; Kobayashi, Hidekazu; Shiotani, Takeo

PATENT ASSIGNEE(S):

JSR Co., Ltd., Japan

SOURCE:

Jpn. Kokai Tokkyo Koho, 23 pp.

CODEN: JKXXAF

DOCUMENT TYPE:

Patent

LANGUAGE:

Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001033970	A2	20010209	JP 1999-207452	19990722
PRIORITY APPLN. INFO.:			JP 1999-207452	19990722

AB The title compn. contains (A) a copolymer contg. a repeating unit -C(CO<sub>2</sub>CMe<sub>2</sub>CH<sub>2</sub>R<sub>2</sub>)R<sub>1</sub>CH<sub>2</sub>- [R<sub>1</sub> = H, Me; R<sub>2</sub> = (substituted) C<sub>6</sub>-20 alicyclic or arom. group] and (B) a radiation-sensitive acid generator. The compn. has high sensitivity to radiation and gives high-resoln. patterns. The compn. is useful as a chem. amplified pos.-working photoresist for semiconductor device fabrication.

IT 324767-26-2

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(radiation-sensitive polymer compn. for pos.-working photoresist)

RN 324767-26-2 CAPLUS

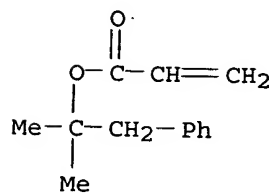
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester,

polymer with 1,1-dimethyl-2-phenylethyl 2-propenoate, 2,5-furandione and 1,1,4,4-tetramethyl-1,4-butanediyl di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 324767-19-3

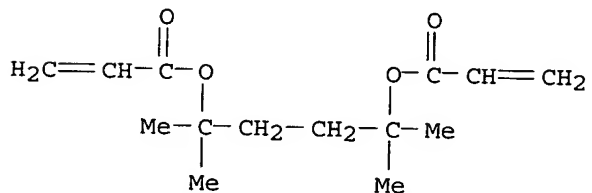
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CM 2

CRN 188837-15-2

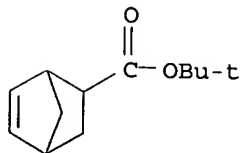
CMF C14 H22 O4



CM 3

CRN 154970-45-3

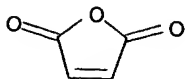
CMF C12 H18 O2



CM 4

CRN 108-31-6

CMF C4 H2 O3



IC ICM G03F007-039  
ICS G03F007-004; H01L021-027  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38  
ST radiation sensitive polyacrylate pos photoresist; resoln sensitivity radiation sensitive photoresist  
IT Positive photoresists  
(radiation-sensitive polymer compn. for pos.-working photoresist)  
IT Resists  
(radiation-sensitive; radiation-sensitive polymer compn. for pos.-working photoresist)  
IT 66003-78-9, Triphenylsulfonium trifluoromethanesulfonate 133710-62-0, N-(Trifluoromethyl sulfonyloxy)bicyclo[2.2.1]hept-5-ene-2,3-dicarboxyimide 185195-30-6, Bis(4-tert-butylphenyl)iodonium 10-camphorsulfonate 194999-85-4  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(acid generator; radiation-sensitive polymer compn. for pos.-working photoresist)  
IT 324767-20-6 324767-21-7 324767-22-8 324767-23-9 324767-24-0 324767-25-1 324767-26-2 324767-27-3  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(radiation-sensitive polymer compn. for pos.-working photoresist)

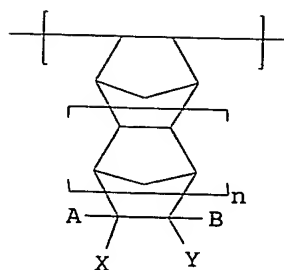
L12 ANSWER 19 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
ACCESSION NUMBER: 2000:774084 CAPLUS  
DOCUMENT NUMBER: 133:357243  
TITLE: Radiation sensitive resin composition  
INVENTOR(S): Yamahara, Noboru; Murata, Kiyoshi; Iwanaga, Shinichiro; Ishii, Hiroyuki; Iwasawa, Haruo  
PATENT ASSIGNEE(S): Jsr Corp., Japan  
SOURCE: Eur. Pat. Appl., 40 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1048983	A1	20001102	EP 2000-108941	20000427
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 6403280	B1	20020611	US 2000-558067	20000426

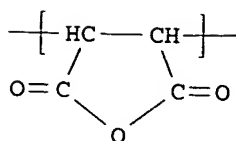
JP 2001013688  
 PRIORITY APPLN. INFO.:  
 GI

A2 20010119

JP 2000-128516 20000427  
 JP 1999-122723 A 19990428



I



II

AB The present invention provides a radiation sensitive resin compn. which comprises (A) a resin represented by a copolymer comprising recurring units I, II, and  $[\text{CH}_2\text{R}_1(\text{COOR}_2\text{OH})]$ , or I, II, and  $[\text{CH}_2\text{R}_1(\text{COOR}_3\text{OH})]$  (X and Y = H, C1-4 alkyl; n = 0-3; R1 = H, Me methylol; R2 = divalent hydrocarbon; R3 = trivalent hydrocarbon), and (B) a radiation sensitive acid-generator. The radiation sensitive resin compn. has an excellent storage stability and the resist produced from the compn. is a chem. amplifiable type sensitive to radiations represented by artificial UV rays. The resist has a high transparency to radiations and it is excellent in basic phys. properties for resist such as durability to dry etching, sensitivity, resoln., and pattern configuration.

IT 305384-38-7P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (radiation sensitive resin compn. from)

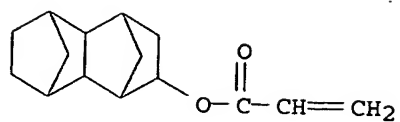
RN 305384-38-7 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester, polymer with decahydro-6(or 7)-hydroxy-1,4:5,8-dimethanonaphthalen-2-yl 2-propenoate, 2,5-furandione and 1,1,4,4-tetramethyl-1,4-butanediyl di-2-propenoate (9CI) (CA INDEX NAME)

CM . 1

CRN 259536-03-3  
 CMF C15 H20 O3  
 CCI IDS



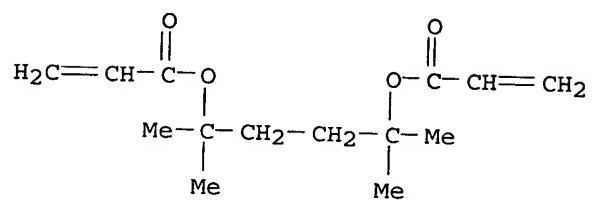


D1-OH

CM 2

CRN 188837-15-2

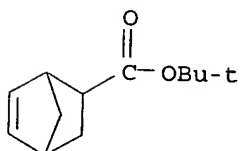
CMF C14 H22 O4



CM 3

CRN 154970-45-3

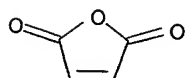
CMF C12 H18 O2



CM 4

CRN 108-31-6

CMF C4 H2 O3



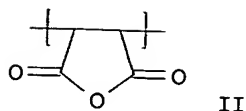
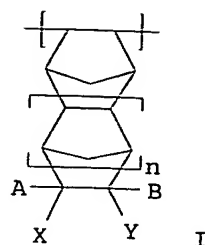
IC ICM G03F007-039

KOROMA EIC1700

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 35, 38  
 ST radiation sensitive resin compn photoacid photoresist  
 IT Photoimaging materials  
 Photoresists  
 (radiation sensitive resin compn. for)  
 IT 66003-78-9, Triphenylsulfonium trifluoromethanesulfonate 144317-44-2,  
 Triphenylsulfonium nonafluorobutanesulfonate 194999-85-4 204315-69-5  
 209482-18-8  
 RL: CAT (Catalyst use); USES (Uses)  
 (photoacid; radiation sensitive resin compn. from)  
 IT 305379-03-7P 305379-05-9P 305379-06-0P 305379-07-1P 305379-09-3P  
 305379-11-7P 305379-12-8P 305379-13-9P 305384-35-4P 305384-37-6P  
 305384-38-7P  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material  
 use); PREP (Preparation); USES (Uses)  
 (radiation sensitive resin compn. from)  
 IT 1116-76-3, Tri-n-octylamine 19293-63-1, Dicyclohexylmethylamine  
 157692-53-0, tert-Butyl deoxycholate 169228-97-1  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (radiation sensitive resin compn. from)  
 REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 20 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 1999:460321 CAPLUS  
 DOCUMENT NUMBER: 131:108922  
 TITLE: Radiation-sensitive resin composition  
 INVENTOR(S): Kajita, Toru; Suwa, Mitsuhito; Iwasawa, Haruo;  
 Yamamoto, Masafumi  
 PATENT ASSIGNEE(S): JSR Corporation, Japan  
 SOURCE: Eur. Pat. Appl., 49 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 930541	A1	19990721	EP 1999-100718	19990115
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 11202491	A2	19990730	JP 1998-18290	19980116
JP 11265067	A2	19990928	JP 1998-270685	19980925
US 6180316	B1	20010130	US 1999-231762	19990115
PRIORITY APPLN. INFO.:			JP 1998-18290	A 19980116
			JP 1998-18291	A 19980116
			JP 1998-270685	A 19980925
OTHER SOURCE(S):			MARPAT 131:108922	
GI				



AB A radiation-sensitive resin compn. useful as a chem. amplified resist comprises (A) a polymer contg. (a) a recurring unit of the formula I (A, B = H or an acid-decomposable org. group having  $\leq 20$  C atoms which dissocs. in the presence of an acid and produces an acidic functional group provided that either one of A and B is the acid-decomposable org. group; X, Y = H or alkyl having 1-4 C atoms; n = 0 or 1) or a recurring unit of the formula I and a recurring unit of the formula II and (b) a recurring unit which is derived from a monomer having at least two polymerizable carbon-carbon double bonds by cleavage of the carbon-carbon double bonds, wherein the monomer has, in addn. to said at least two polymerizable carbon-carbon double bonds, at least one acid-decomposable divalent group of the formula  $-\text{CO}_2\text{C}(\text{R}_1)(\text{R}_2)-$  or  $-\text{OCOC}(\text{R}_3)(\text{R}_4)-$  ( $\text{R}_1-4$  = alkyl having 1-5 C atoms), said at least two polymerizable carbon-carbon double bonds being linked via the acid-decomposable divalent group and (B) a photoacid generator.

IT 231296-14-3P 231296-17-6P 231296-19-8P  
231296-23-4P 231296-25-6P 231296-31-4P  
231296-34-7P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(prepn. and use in chem. amplified photoresists)

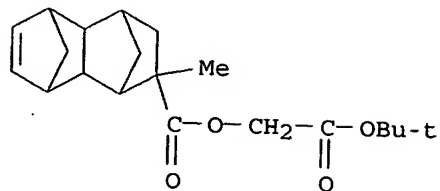
RN 231296-14-3 CAPLUS

CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, 1,2,3,4,4a,5,8,8a-octahydro-2-methyl-, 2-(1,1-dimethylethoxy)-2-oxoethyl ester, polymer with 2,5-furandione, 1,2,3,4,4a,5,8,8a-octahydro-1,4:5,8-dimethanonaphthalen-2-ol and 1,1,4,4-tetramethyl-1,4-butanediyl di-2-propenoate (9CI) (CA INDEX NAME)

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CRN 231296-10-9

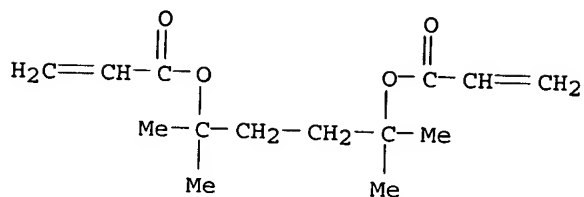
CMF C20 H28 O4



CM 2

CRN 188837-15-2

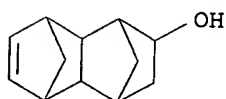
CMF C14 H22 O4



CM 3

CRN 7388-87-6

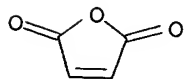
CMF C12 H16 O



CM 4

CRN 108-31-6

CMF C4 H2 O3



RN 231296-17-6 CAPLUS

CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, 1,2,3,4,4a,5,8,8a-octahydro-, 1,1-dimethylethyl ester, polymer with 2,5-furandione and

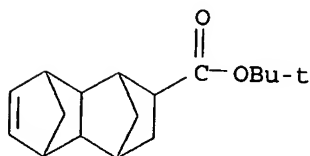
KOROMA EIC1700

1,1,4,4-tetramethyl-1,4-butanediyl di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 195057-79-5

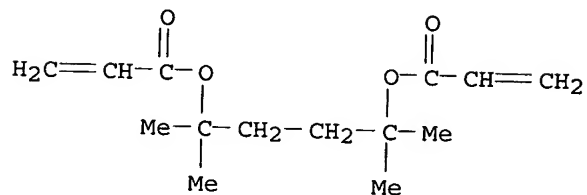
CMF C17 H24 O2



CM 2

CRN 188837-15-2

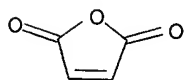
CMF C14 H22 O4



CM 3

CRN 108-31-6

CMF C4 H2 O3



RN 231296-19-8 CAPLUS

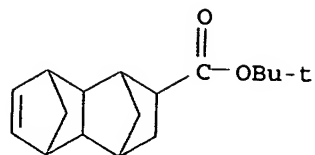
CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, 1,2,3,4,4a,5,8,8a-octahydro-, 1,1-dimethylethyl ester, polymer with 2-hydroxypropyl 2-propenoate and 1,1,4,4-tetramethyl-1,4-butanediyl di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 195057-79-5

CMF C17 H24 O2

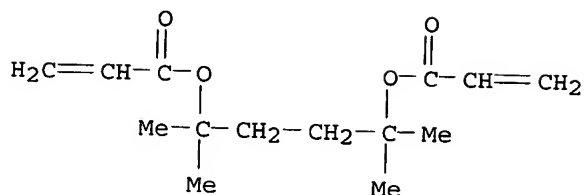
KOROMA EIC1700



CM 2

CRN 188837-15-2

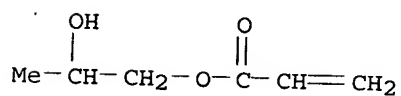
CMF C14 H22 O4



CM 3

CRN 999-61-1

CMF C6 H10 O3



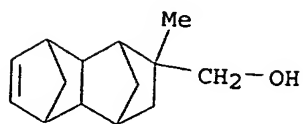
RN 231296-23-4 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester, polymer with 2,5-furandione, 1,2,3,4,4a,5,8,8a-octahydro-2-methyl-1,4:5,8-dimethanonaphthalene-2-methanol and 1,1,4,4-tetramethyl-1,4-butanediyl di-2-propenoate (9CI) (CA INDEX NAME)

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CRN 231296-21-2

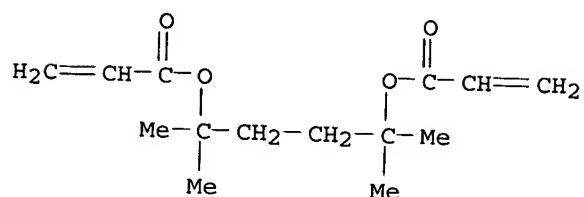
CMF C14 H20 O



CM 2

CRN 188837-15-2

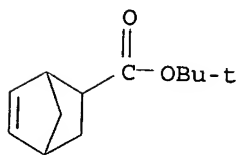
CMF C14 H22 O4



CM 3

CRN 154970-45-3

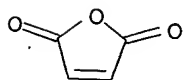
CMF C12 H18 O2



CM 4

CRN 108-31-6

CMF C4 H2 O3



RN 231296-25-6 CAPLUS

CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, 1,2,3,4,4a,5,8,8a-octahydro-, 1,1-dimethylethyl ester, polymer with 2-(acetyloxy)ethyl 2-methyl-2-propenoate, 2,5-furandione and 1,1,4,4-tetramethyl-1,4-

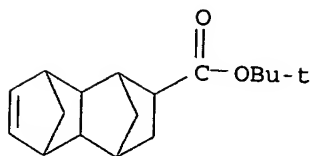
KOROMA EIC1700

butanediyl di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 195057-79-5

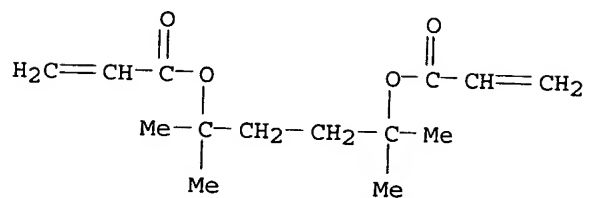
CMF C17 H24 O2



CM 2

CRN 188837-15-2

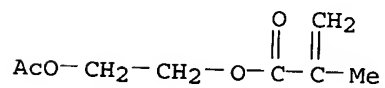
CMF C14 H22 O4



CM 3

CRN 20166-49-8

CMF C8 H12 O4

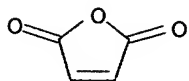


CM 4

CRN 108-31-6

CMF C4 H2 O3





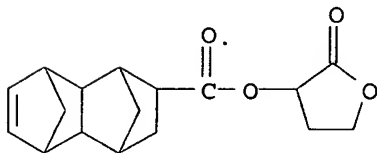
RN 231296-31-4 CAPLUS

CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, 1,2,3,4,4a,5,8,8a-octahydro-, tetrahydro-2-oxo-3-furanyl ester, polymer with 1,1-dimethylethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate, 2,5-furandione and 1,1,4,4-tetramethyl-1,4-butanediyl di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 231296-29-0

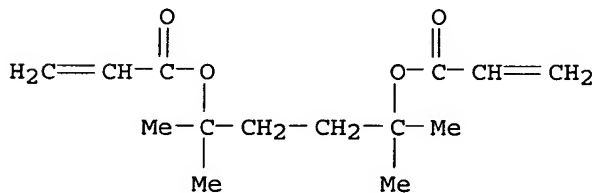
CMF C17 H20 O4



CM 2

CRN 188837-15-2

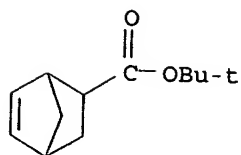
CMF C14 H22 O4



CM 3

CRN 154970-45-3

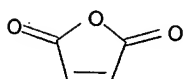
CMF C12 H18 O2



CM 4

CRN 108-31-6

CMF C4 H2 O3



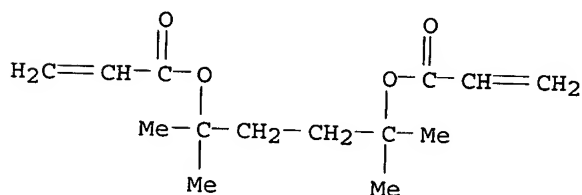
RN 231296-34-7 CAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester, polymer with 2,5-furandione, 1,2,3,4,4a,5,8,8a-octahydro-1,4:5,8-dimethanonaphthalene-2-methanol and 1,1,4,4-tetramethyl-1,4-butanediyl di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 188837-15-2

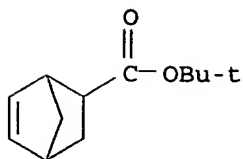
CMF C14 H22 O4



CM 2

CRN 154970-45-3

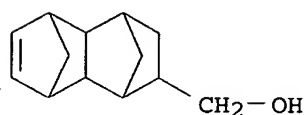
CMF C12 H18 O2



CM 3

CRN 7329-04-6

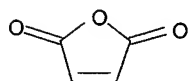
CMF C13 H18 O



CM 4

CRN 108-31-6

CMF C4 H2 O3



IC ICM G03F007-039  
ICS G03F007-004  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
ST chem amplified **resist** norbornene copolymer  
IT Photoresists  
(chem. amplified; contg. norbornene copolymers)  
IT 102-60-3, N,N,N',N'-Tetrakis(2-hydroxypropyl)ethylenediamine 1116-76-3, Trioctylamine 2842-38-8, N-Cyclohexylethanolamine 3033-62-3, Bis(2-dimethylaminoethyl) ether 66003-78-9, Triphenylsulfonium trifluoromethanesulfonate 144317-44-2, Triphenylsulfonium nonafluorobutanesulfonate 194999-85-4, Bis(4-tert-butylphenyl)iodonium nonafluorobutanesulfonate 204315-69-5 209482-18-8 231296-54-1  
RL: TEM (Technical or engineered material use); USES (Uses)  
(chem. amplified photoresists contg. norbornene copolymers and)  
IT 231299-53-9P  
RL: RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(prepn. and reaction in prepg. alicyclic compd. for chem. amplified photoresists contg. norbornene copolymers)

IT 3439-94-9P 7329-04-6P 7388-87-6P 41596-02-5P 46382-54-1P  
58732-15-3P 168898-16-6P 195057-79-5P 231296-10-9P 231296-21-2P  
231296-29-0P  
RL: RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(prepn. and reaction in prepg. norbornene copolymers for chem. amplified photoresists)

IT 231296-14-3P 231296-17-6P 231296-19-8P  
231296-23-4P 231296-25-6P 231296-31-4P  
231296-34-7P  
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(prepn. and use in chem. amplified photoresists)

IT 231299-51-7P  
RL: RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(prepn. and use in chem. amplified photoresists contg. norbornene copolymers)

IT 122752-67-4P 169228-97-1P 213901-06-5P 231296-37-0P 231296-39-2P  
231296-41-6P 231296-42-7P 231296-44-9P 231296-48-3P 231296-50-7P  
231296-52-9P  
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(prepn. and use in chem. amplified photoresists contg. norbornene copolymers)

IT 97-64-3, Ethyl 2-hydroxypropionate 108-94-1, Cyclohexanone, uses  
110-43-0, 2-Heptanone 1320-67-8, Propylene glycol monomethyl ether  
RL: TEM (Technical or engineered material use); USES (Uses)  
(solvent for chem. amplified photoresists contg. norbornene copolymers)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 21 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
ACCESSION NUMBER: 1999:175835 CAPLUS  
DOCUMENT NUMBER: 130:202924  
TITLE: Radiation-sensitive resin composition  
INVENTOR(S): Iwanaga, Shin-ichiro; Kobayashi, Eiichi; Tanabe, Takayoshi; Kawaguchi, Kazuo  
PATENT ASSIGNEE(S): JSR Corporation, Japan  
SOURCE: Eur. Pat. Appl., 20 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 901043 A1 19990310 EP 1998-115846 19980821  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, LT, LV, FI, RO

JP 11143079 A2 19990528 JP 1998-221190 19980805  
 US 6120972 A 20000919 US 1998-136051 19980818

PRIORITY APPLN. INFO.:

JP 1997-251449 A 19970902

AB A radiation-sensitive resin compn. comprises (A) a copolymer which comprises a repeating unit formed by cleavage of a carbon-carbon double bond of a monomer having one polymerizable carbon-carbon double bond and a repeating unit formed by cleavage of a carbon-carbon double bond of a monomer having two or more polymerizable carbon-carbon double bonds and at least one divalent group decompd. by an acid of the formula  $-CO_2C(R_1)(R_2)-$  or  $-OCO_2C(R_3)(R_4)-$  ( $R_1-4$  = alkyl having 1-5 carbon atoms or aryl having 6-14 carbon atoms), said monomer having a structure in which each carbon-carbon double bond combines via said divalent group, and (B) a photoacid generator. The radiation-sensitive resin compn. exhibits excellent sensitivity and resoln., reduced effect from the swing curves, excellent pattern profile, superior heat resistance, high sensitivity to UV rays, far UV rays, x-rays, and charged particles, and is useful as a chem. amplified pos. photoresist used in the manuf. of integrated circuit devices.

IT 220767-14-6, tert-Butyl acrylate-2,5-dimethyl-2,5-hexanediol diacrylate-p-isopropenylphenol-tricyclodecanyl acrylate copolymer

220767-16-8, tert-Butyl acrylate-2,5-dimethyl-2,5-hexanediol diacrylate-p-isopropenylphenol-isobornyl acrylate copolymer

RL: TEM (Technical or engineered material use); USES (Uses)  
 (chem. amplified pos. photoresists contg.)

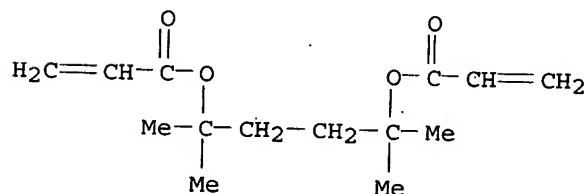
RN 220767-14-6 CAPLUS

CN 2-Propenoic acid, 1,1,4,4-tetramethyl-1,4-butanediyl ester, polymer with 1,1-dimethylethyl 2-propenoate, 4-(1-methylethenyl)phenol and octahydro-4,7-methano-1H-inden-5-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 188837-15-2

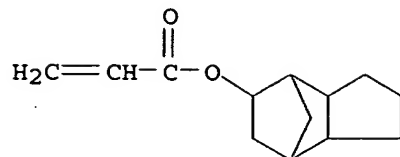
CMF C14 H22 O4



CM 2

CRN 7398-56-3

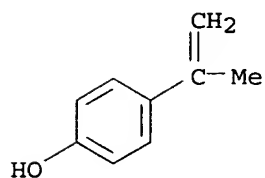
CMF C13 H18 O2



CM 3

CRN 4286-23-1

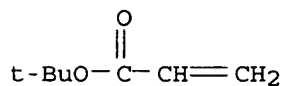
CMF C9 H10 O



CM 4

CRN 1663-39-4

CMF C7 H12 O2



RN 220767-16-8 CAPLUS

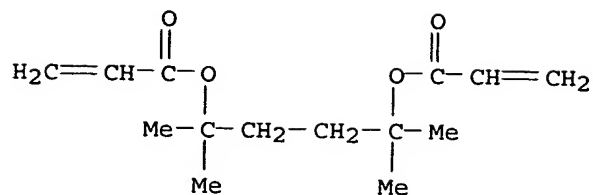
CN 2-Propenoic acid, 1,1,4,4-tetramethyl-1,4-butanediyl ester, polymer with 1,1-dimethylethyl 2-propenoate, 4-(1-methylethenyl)phenol and rel-(1R,2R,4R)-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 188837-15-2

CMF C14 H22 O4

1

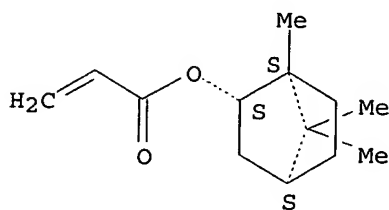


CM 2

CRN 5888-33-5

CMF C13 H20 O2

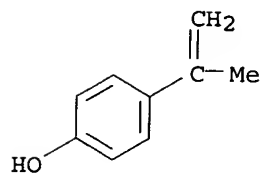
Relative stereochemistry.



CM 3

CRN 4286-23-1

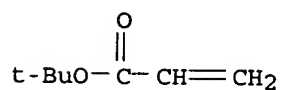
CMF C9 H10 O



CM 4

CRN 1663-39-4

CMF C7 H12 O2



IC ICM G03F007-004  
ICS G03F007-039  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
ST chem amplified pos photoresist acrylic polymer  
IT Photoresists  
Resists  
(chem. amplified, pos.; contg. acrylic polymers)  
IT 220767-14-6, tert-Butyl acrylate-2,5-dimethyl-2,5-hexanediol diacrylate-p-isopropenylphenol-tricyclodecanyl acrylate copolymer  
220767-16-8, tert-Butyl acrylate-2,5-dimethyl-2,5-hexanediol diacrylate-p-isopropenylphenol-isobornyl acrylate copolymer 220767-18-0, tert-Butyl acrylate-2,5-dimethyl-2,5-hexanediol diacrylate-p-hydroxystyrene-styrene copolymer 220767-20-4, 2,5-Dimethyl-2,5-hexanediol diacrylate-p-hydroxystyrene-p-tert-butoxystyrene copolymer 220767-22-6, 2,5-Dimethyl-2,5-hexanediol diacrylate-p-hydroxystyrene-p-(1-ethoxyethoxy)styrene copolymer 220767-24-8, 2,5-Dimethyl-2,5-hexanediol diacrylate-p-hydroxystyrene-p-(tert-butoxycarbonyloxy)styrene copolymer 220767-26-0, tert-Butyl acrylate-p-isopropenylphenol-tricyclodecanyl acrylate copolymer  
RL: TEM (Technical or engineered material use); USES (Uses)  
(chem. amplified pos. photoresists contg.)  
IT 1116-76-3, Trioctylamine 138529-81-4, Bis(cyclohexylsulfonyl)diazomethane 144317-44-2 185195-30-6, Bis(4-tert-butylphenyl)iodonium camphorsulfonate  
RL: TEM (Technical or engineered material use); USES (Uses)  
(chem. amplified pos. photoresists contg. acrylic polymers and)  
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 22 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
ACCESSION NUMBER: 1998:742745 CAPLUS  
DOCUMENT NUMBER: 130:59205  
TITLE: Fabrication of shadow mask using UV-curable acrylic back coating with excellent pore sealability  
INVENTOR(S): Otake, Yasuhisa; Nikaido, Masaru; Hirahara, Sachiko; Kurabayashi, Shigeaki; Suzuki, Nobuyuki  
PATENT ASSIGNEE(S): Toshiba Corp., Japan; Taiyo Ink Seizo K. K.  
SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10308172	A2	19981117	JP 1997-134414	19970508
PRIORITY APPLN. INFO.:			JP 1997-134414	19970508
AB The process involves photolithog. using a UV-curable resin compn. of surface tension 30-50 mL/m as a back surface-protective coating				



which is applied on a one-side-etched metal bar from the etched side to fill the concaves. After the coating application, the bare surface of the metal bar is etched to form through holes and then removed of the coating and a photoresist. The UV-curable compn. may comprise (a) one-carboxy- and one-(meth)acryloyl-contg. compds., (b) .gtoreq.1-(meth)acryloyl-contg. compds., (c) leveling agents, and (d) photopolymn. initiators.

IT 217190-88-0P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(fabrication of shadow mask using UV-curable acrylic back coating with excellent pore sealability)

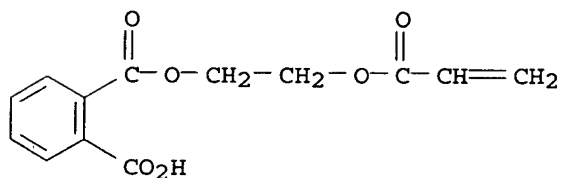
RN 217190-88-0 CAPLUS

CN 1,2-Benzenedicarboxylic acid, mono[2-[(1-oxo-2-propenyl)oxy]ethyl] ester, polymer with 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate and rel-(1R,2R,4R)-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 30697-40-6

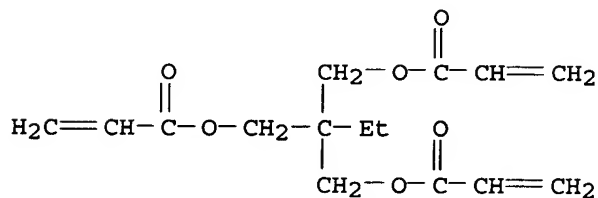
CMF C13 H12 O6



CM 2

CRN 15625-89-5

CMF C15 H20 O6

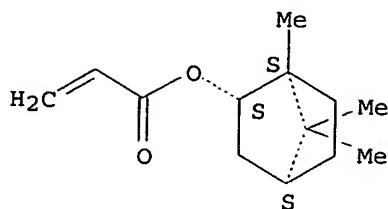


CM 3

CRN 5888-33-5

CMF C13 H20 O2

Relative stereochemistry.



IC ICM H01J009-14  
ICS C23F001-00; G03F007-028; C09D004-02

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 42

ST shadow mask **photolithog** acrylic back coating; pore sealability  
acrylic shadow mask coating; acryloyloxyethyl phthalate ethylene glycol methacrylate coating

IT Coating materials  
(UV-curable; fabrication of shadow mask using UV-curable acrylic back coating with excellent pore sealability)

IT Leveling agents  
Shadow masks  
(fabrication of shadow mask using UV-curable acrylic back coating with excellent pore sealability)

IT 160299-83-2P 217190-83-5P 217190-85-7P 217190-86-8P 217190-87-9P  
217190-88-0P 217190-89-1P 217190-90-4P 217312-43-1P  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(fabrication of shadow mask using UV-curable acrylic back coating with excellent pore sealability)

IT 155683-81-1, BYK 055  
RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(leveling agent; fabrication of shadow mask using UV-curable acrylic back coating with excellent pore sealability)

IT 24650-42-8  
RL: CAT (Catalyst use); USES (Uses)  
(photopolymn. initiator; fabrication of shadow mask using UV-curable acrylic back coating with excellent pore sealability)

L12 ANSWER 23 OF 34 CAPLUS . COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1998:721577 CAPLUS

DOCUMENT NUMBER: 129:349062

TITLE: **Resist** composition and its use for forming patterns

INVENTOR(S): Sumino, Motoshige; Fukasawa, Kazuhito; Matsuo, Takahiro

PATENT ASSIGNEE(S): Wako Pure Chemical Industries, Ltd, Japan; Matsushita Electric Industrial Co., Ltd.

SOURCE: Eur. Pat. Appl., 32 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 875789	A1	19981104	EP 1998-303331	19980429
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 11015164	A2	19990122	JP 1998-136123	19980430

PRIORITY APPLN. INFO.: JP 1997-126402 19970430

AB A resist compn. comprising (a) a polymer having repeating units of the formula  $-[C(R1)(R2)C(R3)ZOCOR4]-$  (R1-3 = hydrogen, alkyl, cyano, alkyloxy, carbonyl, or carbamoyl; Z = a spacer or a direct link and R = hydroxyalkyl having protected terminal hydroxy), (b) a photoacid generator, and (c) a solvent is effective for forming patterns using an ArF excimer laser.

IT 215382-88-0P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(prepn. and use in photoresists effective for forming patterns using argon fluoride excimer lasers)

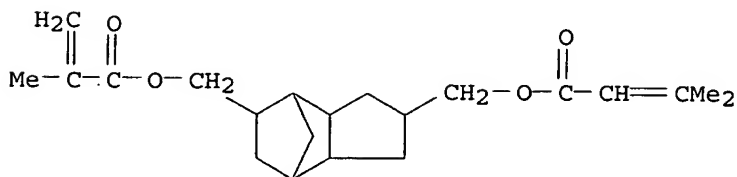
RN 215382-88-0 CAPLUS

CN 2-Butenoic acid, 3-methoxy-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester, polymer with [octahydro-5-[[[(2-methyl-1-oxo-2-propenyl)oxy]methyl]-4,7-methano-1H-inden-2-yl]methyl 3-methyl-2-butenate (9CI) (CA INDEX NAME)

CM 1

CRN 215382-86-8

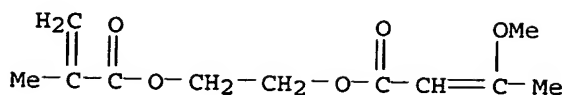
CMF C21 H30 O4



CM 2

CRN 215051-44-8

CMF C11 H16 O5



IC ICM G03F007-039  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 ST argon fluoride laser photoresist vinyl polymer  
 IT 66003-78-9, Triphenylsulfonium trifluoromethanesulfonate  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (photoresists effective for forming patterns using argon fluoride excimer lasers contg. vinyl resins and)  
 IT 128692-52-4P 215051-44-8P 215051-47-1P 215051-54-0P 215382-86-8P  
 RL: RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
 (prepn. and reaction in prepg. resins for photoresists)  
 IT 215051-56-2P 215382-88-0P 215382-90-4P  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (prepn. and use in photoresists effective for forming patterns using argon fluoride excimer lasers)  
 REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

Li2 ANSWER 24 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 1998:721494 CAPLUS  
 DOCUMENT NUMBER: 129:331157  
 TITLE: Acrylic or methacrylic acid derivatives and polymers therefrom useful for resist compositions used in production of semiconductor devices  
 INVENTOR(S): Sumino, Motoshige; Fukasawa, Kazuhito  
 PATENT ASSIGNEE(S): Wako Pure Chemical Industries, Ltd, Japan  
 SOURCE: Eur. Pat. Appl., 35 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 875496	A1	19981104	EP 1998-303332	19980429
EP 875496	B1	20011107		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
TW 491860	B	20020621	TW 1998-87106542	19980423
US 5856521	A	19990105	US 1998-66900	19980428
AT 208367	E	20011115	AT 1998-303332	19980429
JP 11012325	A2	19990119	JP 1998-136128	19980430
PRIORITY APPLN. INFO.:			JP 1997-126391	A 19970430

AB Title derivs. have a general formula of R<sub>6</sub>R<sub>7</sub>C:CR<sub>5</sub>ZOCOR, wherein R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub> = independently hydrogen, alkyl, cyano, alkyloxy, carbonyl, or carbamoyl; Z = spacer or direct link; and R = hydroxyalkyl having protected terminal hydroxy. Thus, a resist compn. comprising a polymer prepd. from Me methacrylate, 2-(methacryloyloxy)ethyl 3-methoxy-2-butenate (prepn. given), and 2-(methacryloyloxy)ethyl acetoacetate was spin-coated on a silicon wafer to give a 0.5 mm-thick resist film, covered with patterned mask, and exposed to ArF excimer laser beams (.lambda. = 193 nm, NA = 0.55) to give a line-and-space pattern.

IT 215051-59-5p

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (prepn. of acrylic or methacrylic acid derivs. and their polymers for resist compns. useful in prodn. of semiconductor devices)

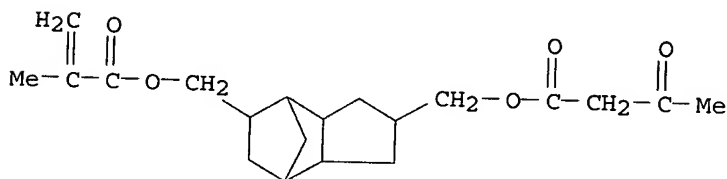
RN 215051-59-5 CAPLUS

CN 2-Butenoic acid, 3-methoxy-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester, polymer with [octahydro-5-[[[(2-methyl-1-oxo-2-propenyl)oxy]methyl]-4,7-methano-1H-inden-2-yl]methyl 3-oxobutanoate (9CI) (CA INDEX NAME)

CM 1

CRN 215051-58-4

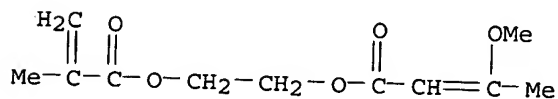
CMF C20 H28 O5



CM 2

CRN 215051-44-8

CMF C11 H16 O5



IC ICM C07C069-734

ICS C07D317-30; C07D319-06; C08F020-18; G03F007-027

CC 35-2 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 76

ST acrylic methacrylic acid deriv prepn; resist semiconductor device methacryloyloxyethyl methoxybutenoate copolymer; methyl methacrylate methacryloyloxyethyl acetoacetate methoxybutenoate copolymer

KOROMA EIC1700

IT Photoresists

Resists

Semiconductor devices

(prepn. of acrylic or methacrylic acid derivs. and their polymers for resist compns. useful in prodn. of semiconductor devices)

IT 173161-66-5P 215051-53-9P 215051-54-0P 215051-58-4P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(in monomer prepn.; prepn. of acrylic or methacrylic acid derivs. and their polymers for resist compns. useful in prodn. of semiconductor devices)

IT 107-21-1, 1,2-Ethanediol, reactions 126-30-7 149-73-5, Methyl orthoformate 920-46-7, Methacryloyl chloride 21282-97-3 28132-01-6, Tricyclo[5.2.1.0<sup>2.6</sup>]decane-4,8-dimethanol 42822-86-6

RL: RCT (Reactant); RACT (Reactant or reagent)  
(in monomer prepn.; prepn. of acrylic or methacrylic acid derivs. and their polymers for resist compns. useful in prodn. of semiconductor devices)

IT 128692-52-4P 215051-44-8P 215051-47-1P 215051-49-3P 215051-51-7P  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(monomer; prepn. of acrylic or methacrylic acid derivs. and their polymers for resist compns. useful in prodn. of semiconductor devices)

IT 215051-56-2P 215051-59-5P 215051-60-8P  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(prepn. of acrylic or methacrylic acid derivs. and their polymers for resist compns. useful in prodn. of semiconductor devices)

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 25 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1998:631736 CAPLUS

DOCUMENT NUMBER: 129:317081

TITLE: Novel (meth)acrylic acid derivatives and curable compositions therefrom with good heat resistance, water resistance, electric insulation properties and adhesion to substrates

INVENTOR(S): Morikawa, Toshiyuki; Fujinobu, Takafumi; Kanefuji, Yuji; Mineyama, Shinobu

PATENT ASSIGNEE(S): Yasuhara Chemical K. K., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

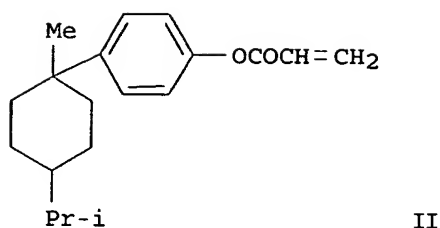
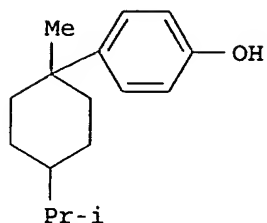
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10259162	A2	19980929	JP 1997-84448	19970318
PRIORITY APPLN. INFO.:			JP 1997-84448	19970318

GI



AB The (meth)acrylic acid derivs. (A) have the base backbone consisting of phenolic compds. contg. cyclic terpene backbones and the curable compns. contg. A are useful for **resist** inks and coatings or printings on plastics, metals, wood, or paper. Thus, 23.2 g I (prepd. by reaction of 1-p-menthene with phenol) was reacted with 9.1 g acryloyl chloride to give II, 40.0 parts of which were kneaded with 2-hydroxyethyl acrylate 5.0, trimethylolpropane triacrylate 40.0, and 2-ethylanthraquinone 1.0 part to give a solder **resist** ink. The **resist** ink was printed onto a flexible Cu-clad laminate and cured by exposure to a high-pressure Hg lamp at 1000 mJ/cm<sup>2</sup> to give a laminate showing elec. resistance (JIS Z 3197) 4 .times. 10<sup>14</sup> .OMEGA. and water absorption 1.6% after 100 h in boiling water.

IT 214763-47-0P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(**resist** ink; novel (meth)acrylic acid derivs. and curable compns. therefrom with good heat resistance, water resistance, elec. insulation properties and adhesion to substrates)

RN 214763-47-0 CAPLUS

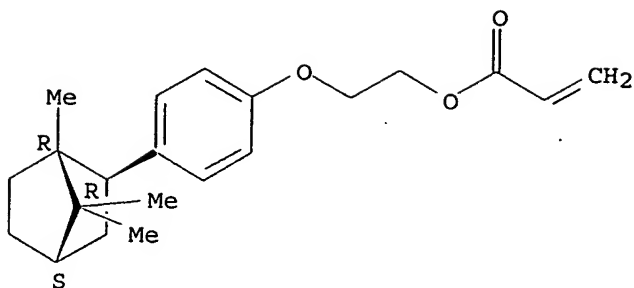
CN 2-Propenoic acid, 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with 2-hydroxyethyl 2-propenoate and rel-2-[4-[(1R,2R,4S)-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl]phenoxy]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 214763-46-9

CMF C21 H28 O3

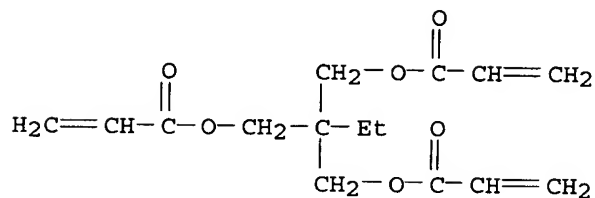
Relative stereochemistry.



CM 2

CRN 15625-89-5

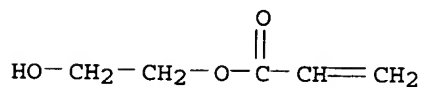
CMF C15 H20 O6



CM 3

CRN 818-61-1

CMF C5 H8 O3



IC ICM C07C069-54

ICS C07C069-54; C07C067-08; C08F020-18; C08F020-20

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 35, 42, 74, 76

ST menthylphenyl acrylate copolymer **resist** heat resistance;  
 isobornylphenyl ethoxyacrylate copolymer **resist** heat resistance;  
 water resistance methylphenyl acrylate copolymer; ink **resist**  
 menthylphenyl acrylate copolymer; circuit board resit menthylphenyl  
 acrylate copolymer; cyclic terpene acrylate copolymer elec insulator;  
 coating cyclic terpene acrylate copolymer; printing ink cyclic terpene  
 acrylate copolymer

KOROMA EIC1700



- IT Polyurethanes, preparation  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(acrylates, resist inks; novel (meth)acrylic acid derivs. and curable compns. therefrom with good heat resistance, water resistance, elec. insulation properties and adhesion to substrates)
- IT Polyurethanes, preparation  
Polyurethanes, preparation  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(epoxy, resist inks; novel (meth)acrylic acid derivs. and curable compns. therefrom with good heat resistance, water resistance, elec. insulation properties and adhesion to substrates)
- IT Water-resistant materials  
Water-resistant materials  
(heat-resistant; novel (meth)acrylic acid derivs. and curable compns. therefrom with good heat resistance, water resistance, elec. insulation properties and adhesion to substrates)
- IT Coating materials  
Electric insulators  
Printed circuit boards  
Solder resists  
(novel (meth)acrylic acid derivs. and curable compns. therefrom with good heat resistance, water resistance, elec. insulation properties and adhesion to substrates)
- IT Epoxy resins, preparation  
Epoxy resins, preparation  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(polyurethane-, resist inks; novel (meth)acrylic acid derivs. and curable compns. therefrom with good heat resistance, water resistance, elec. insulation properties and adhesion to substrates)
- IT Inks  
(printing; novel (meth)acrylic acid derivs. and curable compns. therefrom with good heat resistance, water resistance, elec. insulation properties and adhesion to substrates)
- IT Heat-resistant materials  
Heat-resistant materials  
(water-resistant; novel (meth)acrylic acid derivs. and curable compns. therefrom with good heat resistance, water resistance, elec. insulation properties and adhesion to substrates)
- IT 4488-58-8P 13150-01-1P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(intermediate; novel (meth)acrylic acid derivs. and curable compns. therefrom with good heat resistance, water resistance, elec. insulation properties and adhesion to substrates)
- IT 50-00-0, Formaldehyde, reactions 75-21-8, Oxirane, reactions 79-10-7, 2-Propenoic acid, reactions 79-92-5, Camphene 108-95-2, Phenol, reactions 814-68-6, Acryloyl chloride 5502-88-5, 1-p-Menthene  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(intermediate; novel (meth)acrylic acid derivs. and curable compns.

- therefrom with good heat resistance, water resistance, elec. insulation properties and adhesion to substrates)
- IT 214763-44-7P 214763-46-9P  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (novel (meth)acrylic acid derivs. and curable compns. therefrom with good heat resistance, water resistance, elec. insulation properties and adhesion to substrates)
- IT 101-68-8DP, reaction products with 2-hydroxyethyl acrylate and cyclic terpene-based phenolic compds., copolymers with acrylates 214763-45-8P 214763-47-0P  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (resist ink; novel (meth)acrylic acid derivs. and curable compns. therefrom with good heat resistance, water resistance, elec. insulation properties and adhesion to substrates)
- IT 106-89-8DP, reaction products with acrylic acid and cyclic terpene-based phenolic compds., polymers with acrylates 818-61-1DP, reaction products with MDI and cyclic terpene-based phenolic compds., polymers with acrylates 15625-89-5DP, Trimethylolpropane triacrylate, copolymers with acrylates  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (resist inks; novel (meth)acrylic acid derivs. and curable compns. therefrom with good heat resistance, water resistance, elec. insulation properties and adhesion to substrates)

L12 ANSWER 26 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 1998:298164 CAPLUS  
 DOCUMENT NUMBER: 129:60665  
 TITLE: Color filter materials having high transparency and low reflectance and high-definition color filters for liquid crystal displays  
 INVENTOR(S): Kazama, Shingo; Toki, Koichi; Teramoto, Takeo  
 PATENT ASSIGNEE(S): Nippon Steel Chemical Co., Ltd., Japan; Nippon Steel Corp.  
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10123311	A2	19980515	JP 1996-274867	19961017

PRIORITY APPLN. INFO.: JP 1996-274867 19961017

AB Title materials, useful for protective films, color inks, and black **resists** for color filters, contain alkali-sol resins (Mw >1000) comprising aliph. polycyclic compds. H<sub>2</sub>C:CRXA [R = H, Me; X = divalent group, direct bond; A = (un)substituted aliph. polycyclic hydrocarbonyl] 15-70, (meth)acrylic acid 15-70, and comonomers 0-45 mol%. Thus, 2 g 40:40:20 mol% isobornyl methacrylate-methacrylic acid-hydroxyethyl

methacrylate copolymer oligomer (Mw 9000) were mixed with Et cellosolve 12, Kayarad DPHA 1, Kayarad PET 30 1, Sila-Ace S 510 0.04, Celloxide 2021P 0.359, and Irgacure 907 0.06 g to give a compn, which formed coating films showing light transmittance 98% at 400 nm.

IT 208471-84-5P

RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(photosensitive resin materials having high transparency and low reflectance for color filters of liq. crystal displays)

RN 208471-84-5 CAPLUS

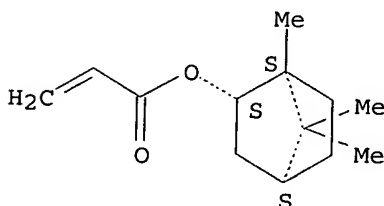
CN 2-Propenoic acid, 2-methyl-, polymer with 2-hydroxyethyl 2-methyl-2-propenoate, 2-(hydroxymethyl)-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, 2,2'-[oxybis(methylene)]bis[2-(hydroxymethyl)-1,3-propanediol] 2-propenoate and rel-(1R,2R,4R)-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 5888-33-5

CMF C13 H20 O2

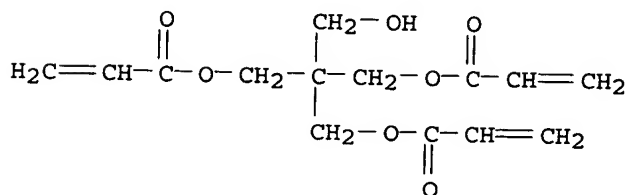
Relative stereochemistry.



CM 2

CRN 3524-68-3

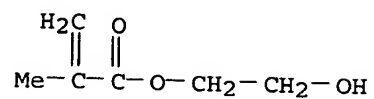
CMF C14 H18 O7



CM 3

CRN 868-77-9

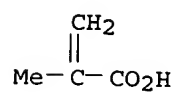
CMF C6 H10 O3



CM 4

CRN 79-41-4

CMF C4 H6 O2



CM 5

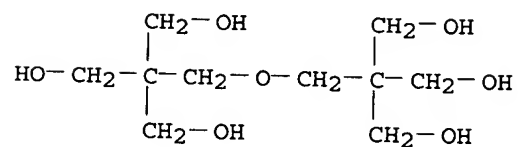
CRN 77641-99-7

CMF C10 H22 O7 . x C3 H4 O2

CM 6

CRN 126-58-9

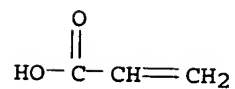
CMF C10 H22 O7



CM 7

CRN 79-10-7

CMF C3 H4 O2



IC ICM G02B005-20

KOROMA EIC1700

ICS C08L033-02; C08L033-04; G03F007-027; G03F007-028; G03F007-033  
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 42  
 ST liq crystal display color filter transparency; reflectance acrylic resin color filter; acrylic resin color filter transparency  
 IT Coating materials  
 Inks  
 Liquid crystal displays  
 Optical filters  
 (photosensitive resin materials having high transparency and low reflectance for color filters of liq. crystal displays)  
 IT Acrylic polymers, properties  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (photosensitive resin materials having high transparency and low reflectance for color filters of liq. crystal displays)  
 IT 208471-83-4P 208471-84-5P 208471-85-6P 208471-86-7P  
 RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (photosensitive resin materials having high transparency and low reflectance for color filters of liq. crystal displays)  
 IT 28136-81-4P 31693-08-0P, Hydroxyethyl methacrylate-methacrylic acid copolymer 184640-97-9P 199105-60-7P  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (photosensitive resin materials having high transparency and low reflectance for color filters of liq. crystal displays)

L12 ANSWER 27 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 1996:631745 CAPLUS  
 DOCUMENT NUMBER: 125:278139  
 TITLE: Manufacture of phenolic resins and epoxy resins for laminates, sealants, and solder resists and photocurable compositions  
 INVENTOR(S): Ootsuki, Yutaka; Yuasa, Hitoshi; Oshimi, Fumiaki; Enomoto, Masami  
 PATENT ASSIGNEE(S): Nippon Oil Co Ltd, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 22 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08208812	A2	19960813	JP 1995-20666	19950208
JP 3292616	B2	20020617		
JP 2002265561	A2	20020918	JP 2002-12561	19950208
PRIORITY APPLN. INFO.:			JP 1995-20666	A3 19950208
AB Epoxy resin compns. are obtained from epihalohydrins and phenolic resins				

predp. by treating (A) olefins comprising 10-90% C4-5 conjugated diene polymers and 10-90% C4-15 hydrocarbon dienes with (B) phenols in the presence of acid catalysts. Photocurable compns. contain photocurable polymers obtained from the epoxy resins, (meth)acrylic acids, and .alpha.,.beta.-dicarboxylic acid anhydrides and photopolymer. initiators. Thus, 100 parts copolymer obtained from PhOH, Nisseki B 700, and dicyclopentadiene and 12 parts hexamethylenetetramine were mixed with glass fibers 145, wollastonite 90, Mg stearate 1, and carbon black 5 parts, melt kneaded, and pressed to give a test piece showing good heat resistance and low water absorption.

IT 182508-76-5P 182508-77-6P 182508-78-7P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(manuf. of phenolic resins and epoxy resins for laminates, sealants, and photocurable solder resists)

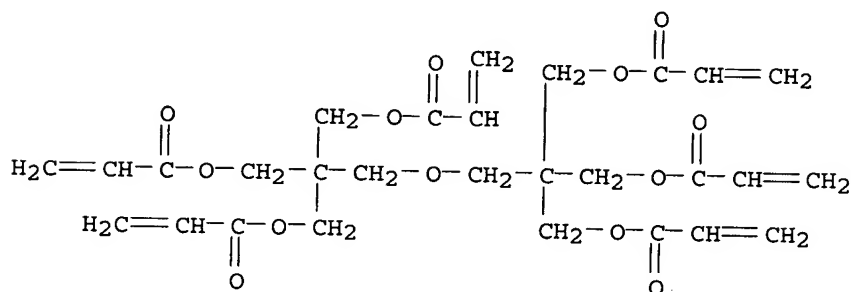
RN 182508-76-5 CAPLUS

CN 2-Propenoic acid, 2-[[[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with 1,3-butadiene, (chloromethyl)oxirane, Epo Tohto YDCN 702 2-propenoate, hexahydro-1,3-isobenzofurandione, phenol and 3a,4,7,7a-tetrahydro-4,7-methano-1H-indene (9CI) (CA INDEX NAME)

CM 1

CRN 29570-58-9

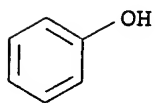
CMF C28 H34 O13



CM 2

CRN 108-95-2

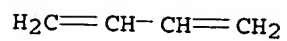
CMF C6 H6 O



CM 3

CRN 106-99-0

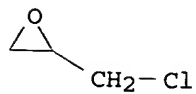
CMF C4 H6



CM 4

CRN 106-89-8

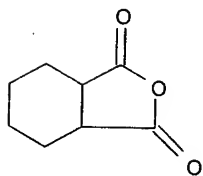
CMF C3 H5 Cl O



CM 5

CRN 85-42-7

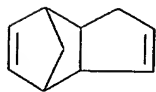
CMF C8 H10 O3



CM 6

CRN 77-73-6

CMF C10 H12



CM 7

CRN 126040-06-0  
CMF C3 H4 O2 . x Unspecified

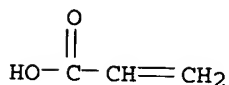
CM 8

CRN 109190-39-8  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 9

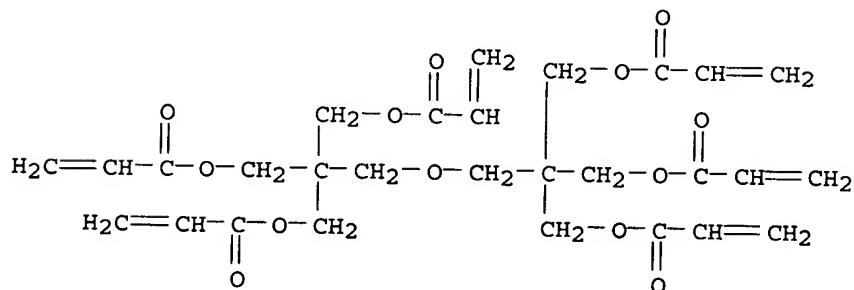
CRN 79-10-7  
CMF C3 H4 O2



RN 182508-77-6 CAPLUS  
CN 2-Propenoic acid, 2-[[[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[[1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with 1,3-butadiene, (chloromethyl)oxirane, Epo Tohto YDCN 702 2-propenoate, hexahydro-1,3-isobenzofurandione, 2-methylphenol and 3a,4,7,7a-tetrahydro-4,7-methano-1H-indene (9CI) (CA INDEX NAME)

CM 1

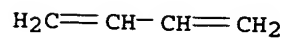
CRN 29570-58-9  
CMF C28 H34 O13



CM 2

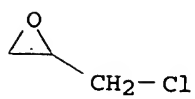


CRN 106-99-0  
CMF C4 H6



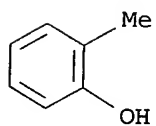
CM 3

CRN 106-89-8  
CMF C3 H5 Cl O



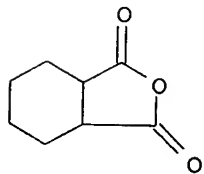
CM 4

CRN 95-48-7  
CMF C7 H8 O



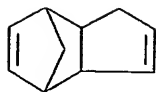
CM 5

CRN 85-42-7  
CMF C8 H10 O3



CM 6

CRN 77-73-6  
CMF C10 H12



CM 7

CRN 126040-06-0

CMF C3 H4 O2 . x Unspecified

CM 8

CRN 109190-39-8

CMF Unspecified

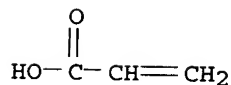
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 9

CRN 79-10-7

CMF C3 H4 O2



RN 182508-78-7 CAPLUS

CN 2-Propenoic acid, 2-[[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with 1,3-butadiene polymer with (chloromethyl)oxirane, phenol and 3a,4,7,7a-tetrahydro-4,7-methano-1H-indene 2-propenoate, dihydro-2,5-furandione and Epo Tohto YDCN 704 (9CI) (CA INDEX NAME)

CM 1

CRN 94362-50-2

CMF Unspecified

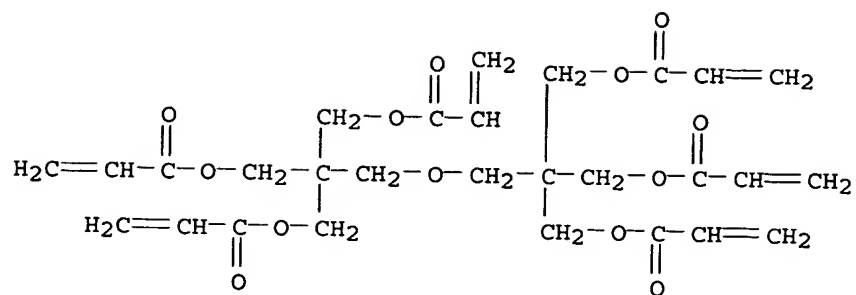
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 29570-58-9

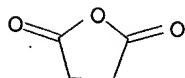
CMF C28 H34 O13



CM 3

CRN 108-30-5

CMF C4 H4 O3



CM 4

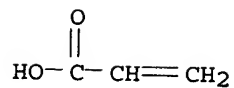
CRN 182508-72-1

$$\text{CMF} \quad (\text{C}_{10} \text{ H}_{12} \cdot \text{C}_6 \text{ H}_6 \text{ O} \cdot \text{C}_4 \text{ H}_6 \cdot \text{C}_3 \text{ H}_5 \text{ Cl O})_x \cdot x \text{C}_3 \text{ H}_4 \text{ O}_2$$

CM 5

CRN 79-10-7

CMF C3 H4 O2



CM 6

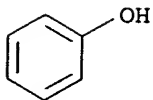
CRN 182281-41-0

$$\text{CMF} \quad (\text{C}_{10} \text{H}_{12} \cdot \text{C}_6 \text{H}_6 \text{O} \cdot \text{C}_4 \text{H}_6 \cdot \text{C}_3 \text{H}_5 \text{ClO})_x$$

CCI PMS

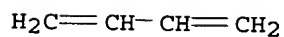
CM 7

CRN 108-95-2  
CMF C6 H6 O



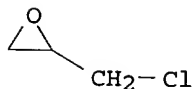
CM 8

CRN 106-99-0  
CMF C4 H6



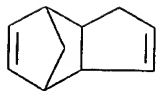
CM 9

CRN 106-89-8  
CMF C3 H5 Cl O



CM 10

CRN 77-73-6  
CMF C10 H12



IC ICM C08G061-00  
ICS C08G059-06; C08G059-14; C08G059-18; C08K005-00; C08L063-00;  
C08L065-00; G03F007-027; G03F007-028; G03F007-038; H01L023-29;  
H01L023-31; H05K003-18; H05K003-28  
CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 42, 74  
ST butadiene phenolic resin heat resistance; water resistance butadiene  
phenolic resin; epoxy resin laminate heat resistance; sealant epoxy resin

KOROMA EIC1700

heat resistance; solder resist epoxy resin photocurable

IT Chemically resistant materials  
Crosslinking agents  
Heat-resistant materials  
Sealing compositions  
Water-resistant materials  
(manuf. of phenolic resins and epoxy resins for laminates, sealants, and photocurable solder resists)

IT Epoxy resins, uses  
Phenolic resins, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(manuf. of phenolic resins and epoxy resins for laminates, sealants, and photocurable solder resists)

IT Crosslinking  
(photochem., manuf. of phenolic resins and epoxy resins for laminates, sealants, and photocurable solder resists)

IT Resists  
(solder, manuf. of phenolic resins and epoxy resins for laminates, sealants, and photocurable solder resists)

IT 182281-48-7P 182281-49-8P 182281-50-1P 182281-51-2P 182281-52-3P  
182281-53-4P 182281-54-5P 182281-55-6P 182281-56-7P 182281-57-8P  
182281-59-0P 182281-61-4P 182281-64-7P 182281-67-0P 182281-70-5P  
182281-73-8P 182282-17-3P 182282-18-4P 182508-76-5P  
182508-77-6P 182508-78-7P  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(manuf. of phenolic resins and epoxy resins for laminates, sealants, and photocurable solder resists)

IT 163149-15-3P, Butadiene-dicyclopentadiene-phenol copolymer 182281-41-0P,  
Butadiene-dicyclopentadiene-epichlorohydrin-phenol copolymer  
182281-42-1P, Butadiene-o-cresol-dicyclopentadiene copolymer  
182281-43-2P 182281-44-3P, Butadiene-phenol-vinylcyclohexene copolymer  
182281-45-4P 182281-46-5P 182281-47-6P 182508-73-2P 182508-75-4P,  
YDCN 702 acrylate-hexahydrophthalic anhydride copolymer  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(manuf. of phenolic resins and epoxy resins for laminates, sealants, and photocurable solder resists)

L12 ANSWER 28 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1995:586359 CAPLUS

DOCUMENT NUMBER: 122:315354

TITLE: Photopolymerization initiators for photocurable compositions

INVENTOR(S): Lin, Samuel Q.; Humphreys, Robert W. R.

PATENT ASSIGNEE(S): Loctite Corp., USA

SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.  
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

## PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06293803	A2	19941021	JP 1993-321272	19931126
PRIORITY APPLN. INFO.:			JP 1993-321272	19931126

AB The compns. consist of photocurable compds. and polymers having initiator end groups QR8R5- [QR8 = branched arom.-aliph. ketone residue; R8 = alkylene, alkenylene, alkyleneoxy, oxy; R5 = Si(R6)2[OSi(R6)2]n; R6 = org. group, halo; n = 0, integer].

IT 163518-27-2P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polymeric photoinitiators for manuf. of)

RN 163518-27-2 CAPLUS

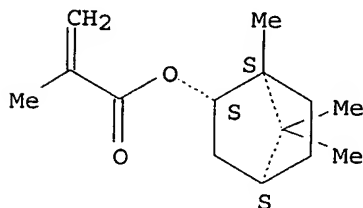
CN 2-Propenoic acid, 2-methyl-, cyclohexyl ester, polymer with 1,3-butadiene, 2-(hydroxymethyl)-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate and exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

CRN 7534-94-3

CMF C14 H22 O2

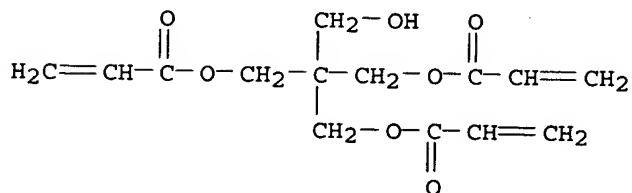
Relative stereochemistry.



CM 2

CRN 3524-68-3

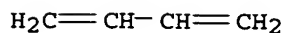
CMF C14 H18 O7



CM 3

CRN 106-99-0

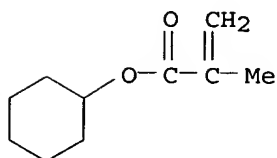
CMF C4 H6



CM 4

CRN 101-43-9

CMF C10 H16 O2



IC ICM C08F002-50

ICA C08F008-42; C08F299-08; C08G077-42

CC 35-3 (Chemistry of Synthetic High Polymers)

ST photopolymer initiator photocurable compn

IT Adhesives

Coating materials

(UV-curable, contg. polymeric photopolymer. initiators)

IT Polymerization catalysts

(graft, photochem., prepn. of polymeric photopolymer. initiators)

IT Rubber, synthetic

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);  
USES (Uses)

(isoprene-styrene, block, triblock, reaction products, with  
siloxane-contg. benzoin derivs.; prepn. of polymeric photopolymer.  
initiators)

IT Rubber, butadiene, preparation

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);  
USES (Uses)

(of cis-1,4-configuration, reaction products, with siloxane-contg.  
benzoin derivs.; prepn. of polymeric photopolymer. initiators)

IT Resists

(photo-, UV, contg. polymeric photopolymer. initiators)

IT Polymerization catalysts

(photochem., prepn. of polymeric photopolymer. initiators)

IT Polymerization catalysts

(polyfunctional, prepn. of polymeric photopolymer. initiators)

IT Siloxanes and Silicones, preparation

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);  
USES (Uses)

- (reaction products, with siloxane-contg. benzoin derivs.; prepn. of polymeric photopolymn. initiators)
- IT 107439-29-2P, Butadiene-methyl methacrylate graft copolymer  
163518-27-2P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(polymeric photoinitiators for manuf. of)
- IT 9003-17-2DP, Butarez NF, reaction products with siloxane-contg. benzoin derivs. 121698-02-0DP, reaction products with siloxane-contg. benzoin derivs. 155665-02-4DP, Dimethylsilanediol-methylvinylsilanediol copolymer, reaction products with siloxane-contg. benzoin derivs.  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(prepn. of polymeric photopolymn. initiators)
- IT 98-86-2, Acetophenone, reactions 106-95-6, Allyl bromide, reactions 108-94-1, Cyclohexanone, reactions 574-09-4, Benzoin ethyl ether 1066-35-9, Chlorodimethylsilane 3524-62-7, Benzoin methyl ether 7677-24-9, Trimethylsilyl cyanide 40663-68-1, p-(Allyloxy)benzaldehyde  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(prepn. of polymeric photopolymn. initiators)
- IT 26595-39-1P, .alpha.-Allylbenzoin ethyl ether 27984-20-9P, 4-Penten-1-one, 2-methoxy-1,2-diphenyl- 104120-96-9P 104120-97-0P 104120-98-1P 104140-50-3P 104140-51-4P 104140-52-5P 104140-53-6P 104140-54-7P 114450-99-6P 163518-28-3P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. of polymeric photopolymn. initiators)
- IT 104140-55-8DP, reaction products with polybutadiene  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of polymeric photopolymn. initiators)
- IT 9003-17-2P  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(rubber, of cis-1,4-configuration, reaction products, with siloxane-contg. benzoin derivs.; prepn. of polymeric photopolymn. initiators)

L12 ANSWER 29 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1994:166897 CAPLUS

DOCUMENT NUMBER: 120:166897

TITLE: UV-curable resin compositions for electrically insulating coatings and colorant compositions containing them

INVENTOR(S): Aratama, Nobuo

PATENT ASSIGNEE(S): Za Inku Tetsuku Kk, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:



PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05247155	A2	19930924	JP 1992-51908	19920310

PRIORITY APPLN. INFO.: JP 1992-51908 19920310

AB The UV-curable resin compns. with good adhesion to metals, useful as resist inks, insulating coatings, etc., comprise phosphate-modified epoxy (meth)acrylates 10-70, phosphate-modified (meth)acrylates 0-20, monofunctional (meth)acrylates 10-70, polyfunctional (meth)acrylates 5-20, photoinitiators 1-15, and polymn. inhibitors 0-1%. The compns. optionally contain 0.01-50% pigments as coloring and thickening agents. A mixt. of Ripoxy SP 6000 (phosphate-modified epoxy acrylate) 45, Light Ester PA 3, SR 506 45, Kayarad TMPTA 10, Irgacure 184 7, and hydroquinone 0.01 part showed viscosity 500 cP and gave a cured coating showing pencil hardness 3H, cross-cut adhesion 100/100, and elec. resistance 3.0 .times. 1012 .OMEGA..

IT 153515-81-2

RL: USES (Uses)  
(photocurable, for elec. insulating coatings and inks with adhesion to metal)

RN 153515-81-2 CAPLUS

CN 2-Propenoic acid, 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with 2-(phosphonooxy)ethyl 2-propenoate, exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-propenoate and Ripoxy SP 6000 (9CI) (CA INDEX NAME)

CM 1

CRN 153302-21-7

CMF Unspecified

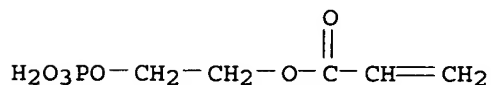
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 32120-16-4

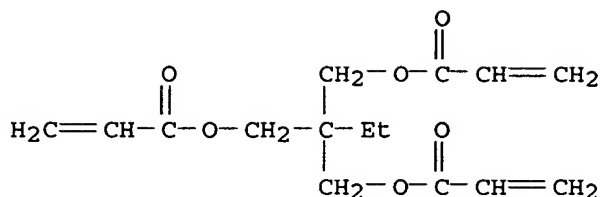
CMF C5 H9 O6 P



CM 3

CRN 15625-89-5

CMF C15 H20 O6

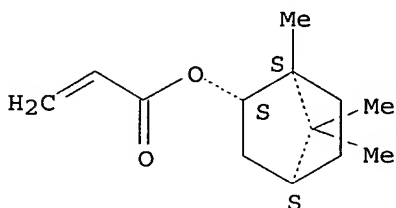


CM 4

CRN 5888-33-5

CMF C13 H20 O2

Relative stereochemistry.



IC ICM C08F299-02

ICS C08F002-50

CC 42-7 (Coatings, Inks, and Related Products)

Section cross-reference(s) : 38, 74

ST elec insulator coating acrylate photocuring; epoxy acrylate coating elec insulator; metal acrylate coating photocuring insulator; phosphate epoxy acrylate coating insulator; colorant acrylate coating photocuring insulator; adhesion acrylate photocuring coating insulator

IT Polymerization inhibitors

(UV-curable epoxy acrylate compns. contg., for elec. insulating coatings and inks)

IT Carbon black, uses

RL: USES (Uses)

(pigments, UV-curable acrylate compns. contg., for elec. insulating coatings and inks)

IT Coating materials

(UV-curable, epoxy acrylate-based, with adhesion to metals)

IT Epoxy resins, compounds

RL: USES (Uses)

(acrylates, UV-curable, for elec. insulating coatings and inks with adhesion to metals)

## IT Electric insulators and Dielectrics

(coatings, UV-curable acrylate compns., with adhesion to metals)

## IT Polymerization catalysts

(photochem., UV-curable epoxy acrylate compns. contg., for elec.

KOROMA EIC1700

insulating coatings and inks)  
 IT Crosslinking  
     (photochem., epoxy acrylate compns. for, for elec. insulating coatings  
     and inks)  
 IT Inks  
     (printing, UV-curable, epoxy acrylate-based, elec. insulating, with  
     adhesion to metals)  
 IT 39362-79-3, 42 Alloy  
     RL: USES (Uses)  
     (coatings and inks for, UV-curable acrylate compns. as, adherent)  
 IT 153218-49-6 153452-24-5 153515-81-2  
     RL: USES (Uses)  
     (photocurable, for elec. insulating coatings and inks with adhesion to  
     metal)  
 IT 947-19-3, Irgacure 184  
     RL: USES (Uses)  
     (photoinitiators, in epoxy acrylate compns. for elec. insulating  
     coatings and inks)  
 IT 7727-43-7, Barium sulfate  
     RL: USES (Uses)  
     (pigments, in photocurable acrylate compns. for elec. insulating  
     coatings and inks)  
 IT 123-31-9, Hydroquinone, uses  
     RL: USES (Uses)  
     (polymn. inhibitors, in photocurable acrylate compns. for elec.  
     insulating coatings and inks)

L12 ANSWER 30 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1993:136238 CAPLUS

DOCUMENT NUMBER: 118:136238

TITLE: Patterning of gold film

INVENTOR(S): Kushi, Kenji; Inukai, Kenichi; Izeki, Takayuki;  
 Fujimoto, Yasuyuki; Koyanagi, Seiya

PATENT ASSIGNEE(S): Mitsubishi Rayon Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04039664	A2	19920210	JP 1990-146086	19900606
PRIORITY APPLN. INFO.:			JP 1990-146086	19900606

AB The title patterning has the steps of: (1) forming an alkali-developable photosensitive resin interlayer on a metal substrate; (2) laminating an alkali-developable dry-resist film; (3) effecting imagewise exposure of the aforementioned 2 films to harden them, and developing them with an alkali developer to remove an unexposed region; and (4) effecting electroplating of Au. This patterning is characterized by use of said photosensitive resin interlayer which with an acid value 10-100, contains

(a) a copolymer which as a thermoplastic binder and with glass transition temp. 60-100.degree., is made up of (1) Ph-C(R):CH<sub>2</sub> [R = H, C1-6 alkyl, halo] 3-30%, (2) .gtoreq.1 compd. 15-45% selected from C1-6 alkyl acrylate and C2-6 hydroxy alkyl acrylate, (3) .gtoreq.1 compd. 25-60% selected from C1-6 alkyl methacrylate, and (3) C2-6 hydroxy methacrylate, C3-15 .alpha., .beta.-unsatd. COOH-bearing monomer(s) 15-35%, (b) a monomer 25-50% contg. .gtoreq.1 OH and .gtoreq.2 ethylenic unsatd. moieties, and (c) a photopolymn. initiator 0-10%. This patterning can be used in fabrication of a printed circuit board.

IT 146057-34-3

RL: USES (Uses)

(alkali-developable photosensitive resin film, patterning of gold film by)

RN 146057-34-3 CAPLUS

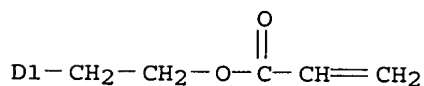
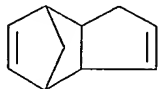
CN 2-Propenoic acid, polymer with 2,2-dimethyl-1,3-propanediyl di-2-propenoate, 2,5-furandione, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane] and 2-(3a,4,7,7a-tetrahydro-4,7-methano-1H-indenyl)ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 130725-08-5

CMF C15 H18 O2

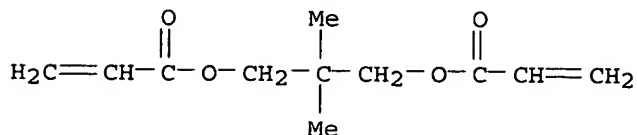
CCI IDS



CM 2

CRN 2223-82-7

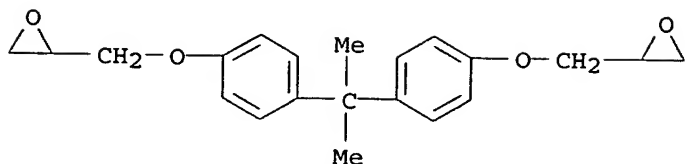
CMF C11 H16 O4



KOROMA EIC1700

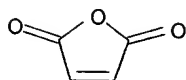
CM 3

CRN 1675-54-3  
CMF C21 H24 O4



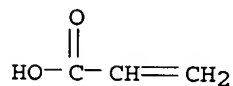
CM 4

CRN 108-31-6  
CMF C4 H2 O3



CM 5

CRN 79-10-7  
CMF C3 H4 O2



IC ICM G03F007-027  
ICS G03F007-26; G03F007-40; H01L021-027; H05K003-24  
ICA H05K003-18  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 76  
ST patterning gold film photosensitive resin  
IT Epoxy resins, uses  
RL: USES (Uses)  
(novolak-type, acrylated, alkali-developable photosensitive resin film, patterning of gold film by)  
IT **Resists**  
(photo-, patterning of gold film by)  
IT 79-10-7D, 2-Propenoic acid, acrylated, reaction product with succinic anhydride 108-30-5D, Succinic anhydride, acrylated, reaction product

with acrylic acid 2223-82-7D, Neopentyl glycol diacrylate, reaction product with epoxy resin 16969-10-1D, 3-Phenoxy-2-hydroxypropyl acrylate, reaction product with epoxy resin 130725-08-5D, reaction product with epoxy resin 146057-30-9 146057-31-0 146057-32-1 146057-33-2 146057-34-3 146057-35-4

RL: USES (Uses)

(alkali-developable photosensitive resin film, patterning of gold film by)

IT 146057-25-2 146057-26-3 146057-27-4 146057-28-5 146057-29-6 146332-21-0

RL: USES (Uses)

(dry-resist film, patterning of gold film by)

IT 7440-57-5, Gold, uses

RL: USES (Uses)

(film, patterning of, by using photoresist film)

L12 ANSWER 31 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1992:532488 CAPLUS

DOCUMENT NUMBER: 117:132488

TITLE: Light-transmitting material and its manufacture, and resin compositions for claddings for light-transmitting materials

INVENTOR(S): Hashimoto, Yutaka; Shiraga, Jun; Kamei, Masayuki

PATENT ASSIGNEE(S): Dainippon Ink and Chemicals, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 40 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03289605	A2	19911219	JP 1990-255998	19900926
JP 3044767	B2	20000522		

PRIORITY APPLN. INFO.: JP 1989-251026 A1 19890927

JP 1990-71220 A1 19900320

AB Title materials, e.g., optical fibers, showing good transmission characteristics and high-resoln. image transmission comprise a no. of cores embedded in a light-diffusing cladding with lower refractive index than the core. A light-transmitting material was prepd. by the photolithog. method from a photocurable core compn. [giving cured product with refractive index 1.526 and transmission loss 0.13 dB/cm (633 nm)] comprising dicyclopentadienediol-phthalic acid copolymer diacrylate 70, dicyclopentanyl acrylate 10, neopentyl glycol diacrylate 20, and 1-hydroxycyclohexyl Ph ketone 2 parts and clad with a photocurable compn. (giving cured product with light transmittance 85% and refractive index 1.401) comprising CH<sub>2</sub>:CHCO<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>C<sub>8</sub>F<sub>17</sub> 75.6, trimethylolpropane triacrylate 11.4, dipentaerythritol hexaacrylate 10.0, 3-mercaptopropyltrimethoxysilane 2.0, and 1-hydroxycyclohexyl Ph ketone 1.0 part to give a product with resoln. 12/mm and aperture 0.60.

IT 142957-80-0P 142957-83-3P 142957-86-6P

142957-87-7P 143024-70-8P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(manuf. of, as light-diffusing photocured claddings on plastic optical fibers)

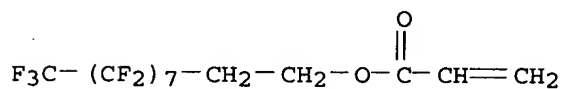
RN 142957-80-0 CAPLUS

CN 2-Propenoic acid, 1,4-butanediyl ester, polymer with 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl 2-propenoate and exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 27905-45-9

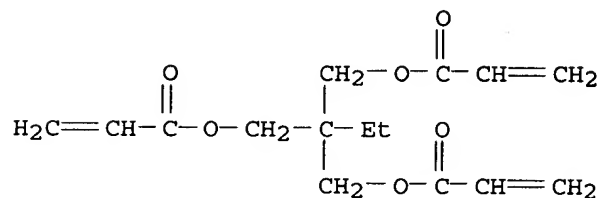
CMF C13 H7 F17 O2



CM 2

CRN 15625-89-5

CMF C15 H20 O6

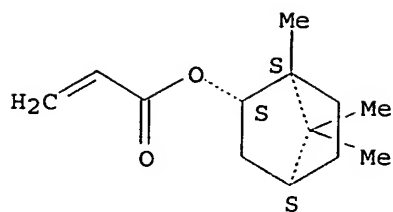


CM 3

CRN 5888-33-5

CMF C13 H20 O2

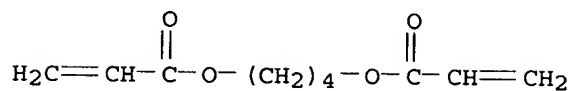
Relative stereochemistry.



CM 4

CRN 1070-70-8

CMF C10 H14 O4



RN 142957-83-3 CAPLUS

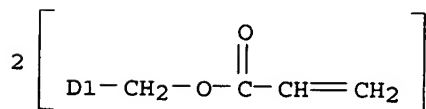
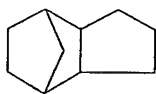
CN 2-Propenoic acid, 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl 2-propenoate and (octahydro-4,7-methano-1H-indene-5,?-diyl)bis(methylene) di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 42594-17-2

CMF C18 H24 O4

CCI IDS

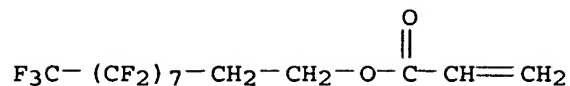


CM 2

CRN 27905-45-9

CMF C13 H7 F17 O2

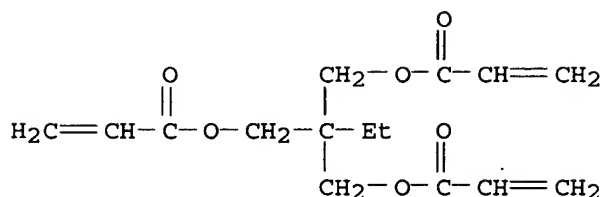




CM 3

CRN 15625-89-5

CMF C15 H20 O6



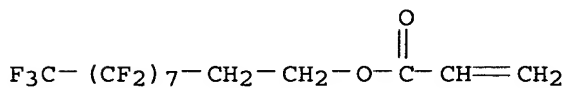
RN 142957-86-6 CAPLUS

CN 2-Propenoic acid, 2-ethyl-2-[[{(1-oxo-2-propenyl)oxy)methyl]-1,3-propanediyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate and exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 27905-45-9

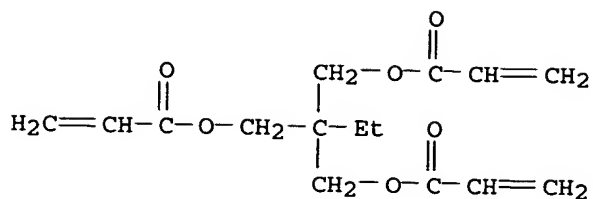
CMF C13 H7 F17 O2



CM 2

CRN 15625-89-5

CMF C15 H20 O6

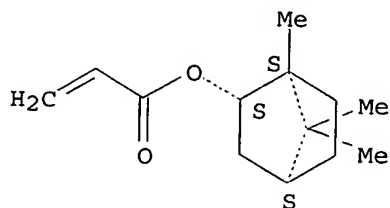


CM 3

CRN 5888-33-5

CMF C13 H20 O2

Relative stereochemistry.



RN 142957-87-7 CAPLUS

CN 2-Propenoic acid, 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with 1,4-butanediyl di-2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl 2-propenoate, 2-[[[(heptafluorooctyl)sulfonyl]propylamino]ethyl 2-propenoate and (octahydro-4,7-methano-1H-indene-5,?-diyl)bis(methylene) di-2-propenoate (9CI) (CA INDEX NAME)

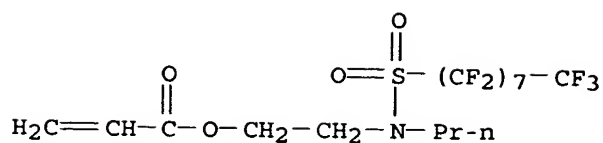
CM 1

CRN 42594-17-2

CMF C18 H24 O4

CCI IDS

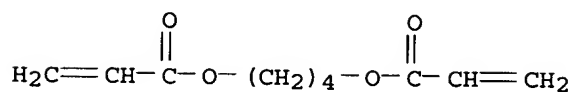




CM 5

CRN 1070-70-8

CMF C10 H14 O4



RN 143024-70-8 CAPLUS

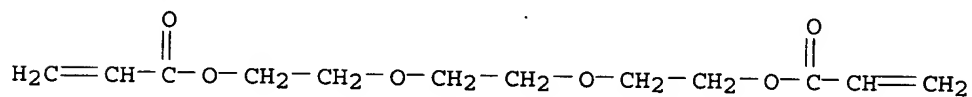
CN 2-Propenoic acid, 2,2-dimethyl-1,3-propanediyl ester, polymer with butyl 2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10-heptadecafluorodecyl 2-propenoate, (1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] di-2-propenoate, octahydro-4,7-methano-1H-inden-5-yl 2-propenoate and exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

CRN 42978-66-5

CMF C15 H24 O6

CCI IDS

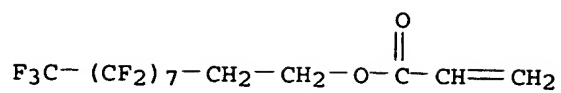


3 ( D1-Me )

CM 2

CRN 27905-45-9

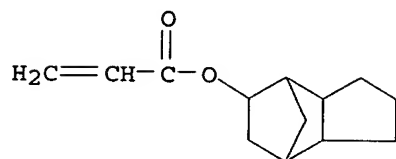
CMF C13 H7 F17 O2



CM 3

CRN 7398-56-3

CMF C13 H18 O2

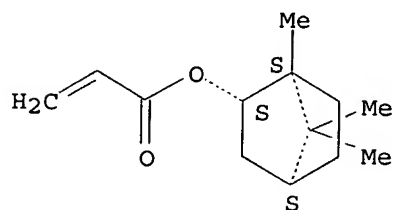


CM 4

CRN 5888-33-5

CMF C13 H20 O2

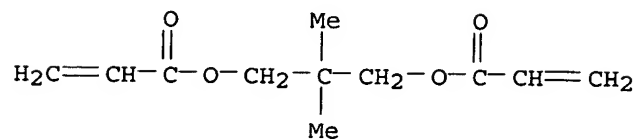
Relative stereochemistry.



CM 5

CRN 2223-82-7

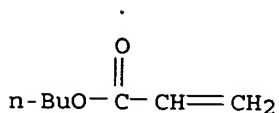
CMF C11 H16 O4



CM 6

CRN 141-32-2

CMF C7 H12 O2



IT 143409-33-0P

RL: PREP (Preparation)

(manuf. of, as photocured optical fiber cores with light-diffusing claddings)

RN 143409-33-0 CAPLUS

CN 2-Propenoic acid, 2,2-dimethyl-1,3-propanediyl ester, polymer with octahydro-4,7-methano-1H-inden-5-yl 2-propenoate and .alpha.-[octahydro[(1-oxo-2-propenyl)oxy]-4,7-methano-1H-indenyl]-.omega.-[(1-oxo-2-propenyl)oxy]poly[oxycarbonyl-1,2-phenylenecarbonyloxy(octahydro-4,7-methano-1H-indenediyl)] (9CI) (CA INDEX NAME)

CM 1

CRN 143178-25-0

CMF (C18 H18 O4)n C16 H20 O4

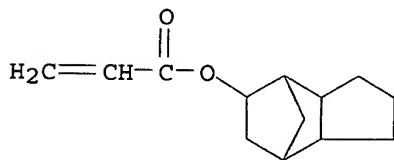
CCI IDS, PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 7398-56-3

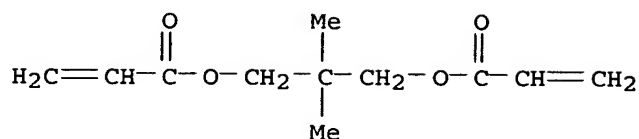
CMF C13 H18 O2



CM 3

CRN 2223-82-7

CMF C11 H16 O4



- IC ICM G02B006-00
- ICS C08L033-14; G02B006-12; G02B006-16
- CC 38-3 (Plastics Fabrication and Uses)
- Section cross-reference(s): 73
- ST photocurable acrylic clad optical fiber; fluoropolymer photocurable optical fiber; epoxy resin photocurable optical fiber; polyester acrylic photocurable optical fiber
- IT Optical fibers
- (acrylic-polyester, with photocured light-diffusing polymer claddings)
- IT Epoxy resins, uses
- RL: USES (Uses)
- (plastic optical fiber claddings, photocurable, light-diffusing)
- IT Polyesters, uses
- RL: USES (Uses)
- (acrylic, optical fiber cores, photocurable, with light-diffusing claddings)
- IT Fluoropolymers
- RL: USES (Uses)
- (acrylic, plastic optical fiber claddings, photocurable, light-diffusing)
- IT Fluoropolymers
- RL: USES (Uses)
- (epoxy, plastic optical fiber claddings, photocurable, light-diffusing)
- IT Acrylic polymers, uses
- Epoxy resins, uses
- RL: USES (Uses)
- (fluorine-contg., plastic optical fiber claddings, photocurable, light-diffusing)
- IT Acrylic polymers, uses
- RL: USES (Uses)
- (polyester-, optical fiber cores, photocurable, with light-diffusing claddings)
- IT Siloxanes and Silicones, uses
- RL: USES (Uses)
- (vinyl group-terminated, acrylic copolymers, plastic optical fiber claddings, photocurable, light-diffusing)
- IT 79-10-7DP, Acrylic acid, silicones terminated by, 2530-85-0DP, 3-Methacryloyloxypropyltrimethoxysilane, silicone-contg. acrylic copolymer derivs. 4998-38-3DP, silicone-contg. acrylic copolymer derivs. 5888-33-5DP, Isobornyl acrylate, silicone-contg. acrylic copolymer derivs. 15625-89-5DP, Trimethylolpropane triacrylate, silicone-contg. acrylic copolymer derivs. 30603-97-5P 74049-08-4P 79637-74-4DP, silicone-contg. acrylic copolymer derivs. 90571-08-7P 90717-88-7P 117725-57-2P, Methyl methacrylate-trimethylolpropane triacrylate graft

copolymer 118256-09-0P 120111-54-8P 140127-75-9P 140127-76-0P  
 140127-77-1P 142957-74-2P 142957-75-3P 142957-76-4P 142957-77-5P  
 142957-78-6P 142957-79-7P 142957-80-0P 142957-82-2P  
 142957-83-3P 142957-84-4P 142957-85-5P 142957-86-6P  
 142957-87-7P 142957-88-8P 142957-89-9P 142987-91-5P  
 142987-92-6P 142987-97-1P 142987-98-2P 142987-99-3P 142988-00-9P  
 142988-01-0P 142988-03-2P 143024-70-8P 143434-11-1P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(manuf. of, as light-diffusing photocured claddings on plastic optical fibers)

IT 143409-33-0P

RL: PREP (Preparation)

(manuf. of, as photocured optical fiber cores with light-diffusing claddings)

L12 ANSWER 32 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1990:236501 CAPLUS

DOCUMENT NUMBER: 112:236501

TITLE: Curable polyene-polythiol resin compositions

INVENTOR(S): Takiyama, Eiichiro; Ogura, Tateshi; Harigai, Noriaki

PATENT ASSIGNEE(S): Showa Highpolymer Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01306424	A2	19891211	JP 1988-136554	19880602
JP 06045697	B4	19940615		
EP 429701	A1	19910605	EP 1989-121983	19891129

R: DE, FR, GB

PRIORITY APPLN. INFO.: JP 1988-136554 19880602

AB The odorless title compns. with good heat resistance, useful for coatings and adhesives, comprise (a) polymers or oligomers (mol. wt.  $\geq 1000$ ) selected from compds. contg.  $\geq 2$  C:C bonds or  $\geq 1$  C:tp1bond.C bond and (b) compds. prepd. by the reaction of alicyclic compds. having  $\geq 2$  unsatd. bond ( $\geq 1$  of which in the ring) and compds. having  $\geq 2$  SH, under SH excess condition. Thus, 132 g dicyclopentadiene was added dropwise to a mixt. of 490 g pentaerythritol tetramercaptopropionate and 0.2 g methyl-p-benzoquinone at  $\geq 60$ .degree. and stirred 2 h at 80.degree. to give an odorless adduct (I). Sep., 200 g phenoxy resin (mol. wt. 25,000) was treated with 30 g isocyanatoethyl methacrylate in MEK to give an unsatd. polymer (II). A Cu foil was coated with a mixt. of I 50, II 450, and Darocure 1173 2 parts and irradiated by UV to form a coating with pencil hardness H, crosscut adhesion 100/100, and good solder heat resistance at 260.degree..

IT 127455-59-8P

RL: PREP (Preparation)



(prepn. of, odorless, heat-resistant, for coatings and adhesives)

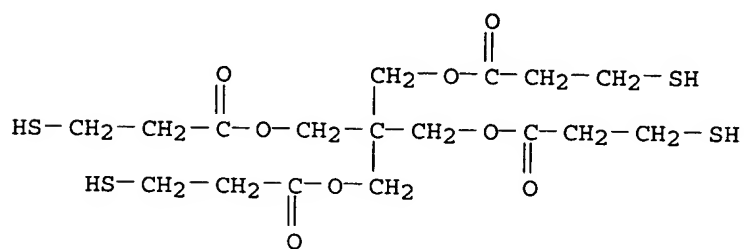
RN 127455-59-8 CAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with 2,2-bis[(3-mercapto-1-oxopropoxy)methyl]-1,3-propanediyl bis(3-mercaptopropanoate), 1,2-ethanediol, 1,3-isobenzofurandione, oxiranylmethyl 2-methyl-2-propenoate and 3a,4,7,7a-tetrahydro-4,7-methano-1H-indene (9CI) (CA INDEX NAME)

CM 1

CRN 7575-23-7

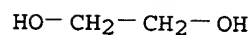
CMF C17 H28 O8 S4



CM 2

CRN 107-21-1

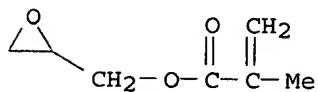
CMF C2 H6 O2



CM 3

CRN 106-91-2

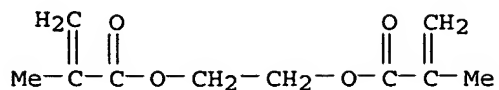
CMF C7 H10 O3



CM 4

CRN 97-90-5

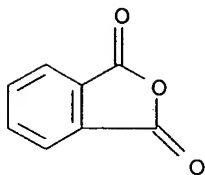
CMF C10 H14 O4



CM 5

CRN 85-44-9

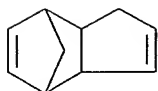
CMF C8 H4 O3



CM 6

CRN 77-73-6

CMF C10 H12



IC ICM C08G075-00

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 38, 42, 76

ST polyene polythiol copolymer curable odorless; coating polyene polythiol copolymer adhesion; adhesive polyene polythiol copolymer; photocurable polyene polythiol copolymer

IT **Resists**

(curable polyene-polythiol copolymers for, heat-resistant)

IT Adhesives

Coating materials

(curable, heat-resistant, polyene-polythiol copolymers for, odorless)

IT Epoxy resins, uses and miscellaneous

RL: USES (Uses)

(phenoxy, unsatd., solder **resist** inks contg., photocurable, odorless, heat-resistant)

IT Thiols, polymers

RL: USES (Uses)

(poly-, with polyenes, UV-curable, odorless, heat-resistant, for coatings and adhesives)

KOROMA EIC1700

IT Electric circuits  
 (printed, boards, resist inks for manuf. of, contg. curable  
 polyene-polythiol copolymers, heat-resistant)

IT 30674-80-7DP, Isocyanatoethyl methacrylate, reaction products with phenoxy  
 resins, polymers with polyene-polythiols 121602-09-3DP, reaction  
 products with phenoxy resin acrylates 127455-55-4P 127455-58-7P  
 127455-59-8P  
 RL: PREP (Preparation)  
 (prepn. of, odorless, heat-resistant, for coatings and adhesives)

IT 107-19-7D, Propargyl alcohol, isophorone diisocyanate adducts, reaction  
 products with phenoxy resins 4098-71-9D, Isophorone diisocyanate,  
 propargyl alc. adducts, reaction products with phenoxy resins  
 127455-57-6  
 RL: USES (Uses)  
 (solder resist inks contg., photocurable, odorless,  
 heat-resistant)

L12 ANSWER 33 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1988:591433 CAPLUS

DOCUMENT NUMBER: 109:191433

TITLE: Polymerizable (meth)allylnorbornene

dicarboximide-(meth)acrylate ester compositions

INVENTOR(S): Banks, Christopher Paul; Irving, Edward; Renner,  
 Alfred; Smith, Terence James

PATENT ASSIGNEE(S): Ciba-Geigy A.-G., Switz.

SOURCE: Eur. Pat. Appl., 15 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 269568	A2	19880601	EP 1987-810663	19871116
EP 269568	A3	19890705		
EP 269568	B1	19910515		

R: CH, DE, FR, GB, IT, LI, NL, SE

US 4966923	A	19901030	US 1987-120044	19871113
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JP 63150311	A2	19880623	JP 1987-293857	19871120
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PRIORITY APPLN. INFO.:	GB 1986-28003	19861122
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AB Mixts. of (meth)acrylate esters and (meth)allyl-5-norbornene-2,3-  
 dicarboximide derivs. can be photopolymd. to polymers useful in  
 fiber-reinforced composites and imaging, which can be thermally cured. A  
 mixt. of N,N'-hexamethylenebis(allyl-5-norbornene-2,3-dicarboximide) 35,  
 N,-diallyl-5-norbornene-2,3-dicarboximide 5, tetramethylene methacrylate  
 8, allyl methacrylate 2, PhCOC(OMe)2Ph 1, and allyl-N-(benzenesulfonyloxy)-  
 5-norbornene-2,3-dicarboximide 0.2 part was exposed as a 20-.mu.m film to  
 an 80-W/cm Hg lamp at a distance of 20 cm for 30 s and then heated at  
 250.degree. for 2 h to give a hard film with glass temp. 285-290.degree..

IT 117181-84-7P 117181-85-8P 117181-87-0P  
 117181-88-1P 117181-90-5P 117181-91-6P

117181-92-7P 117181-93-8P 117248-17-6P

RL: PREP (Preparation)

(manuf. of, by photochem. polymn.)

RN 117181-84-7 CAPLUS

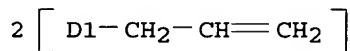
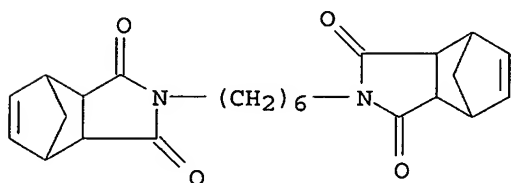
CN 2-Propenoic acid, 2-methyl-, 2-ethyl-2-[[[(2-methyl-1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with 2,2'-(1,6-hexanediyl)bis[3a,4,7,7a-tetrahydro(2-propenyl)-4,7-methano-1H-isoindole-1,3(2H)-dione], 2-propenyl 2-methyl-2-propenoate and 3a,4,7,7a-tetrahydro-2,?-di-2-propenyl-4,7-methano-1H-isoindole-1,3(2H)-dione (9CI) (CA INDEX NAME)

CM 1

CRN 91865-52-0

CMF C30 H36 N2 O4

CCI IDS

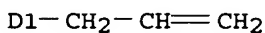
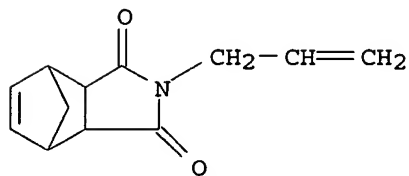


CM 2

CRN 91865-47-3

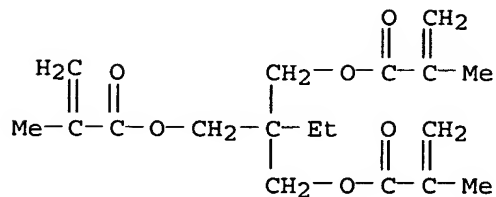
CMF C15 H17 N O2

CCI IDS



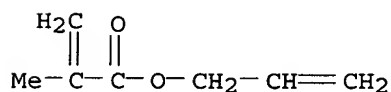
CM 3

CRN 3290-92-4  
CMF C18 H26 O6



CM 4

CRN 96-05-9  
CMF C7 H10 O2

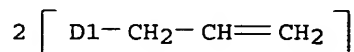
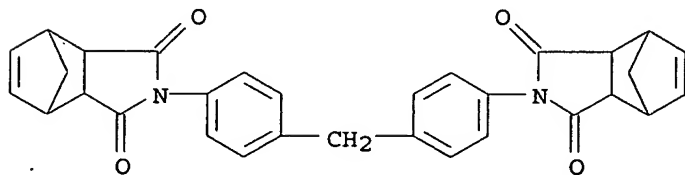


RN 117181-85-8 CAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-ethyl-2-[[[(2-methyl-1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with. 2,2'-(1,6-hexanediyl)bis[3a,4,7,7a-tetrahydro(2-propenyl)-4,7-methano-1H-isoindole-1,3(2H)-dione], 2,2'-(methylenedi-4,1-phenylene)bis[3a,4,7,7a-tetrahydro(2-propenyl)-4,7-methano-1H-isoindole-1,3(2H)-dione] and 3a,4,7,7a-tetrahydro-2,?-di-2-propenyl-4,7-methano-1H-isoindole-1,3(2H)-dione (9CI) (CA INDEX NAME)

CM 1

CRN 91865-54-2  
CMF C37 H34 N2 O4  
CCI IDS

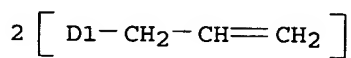
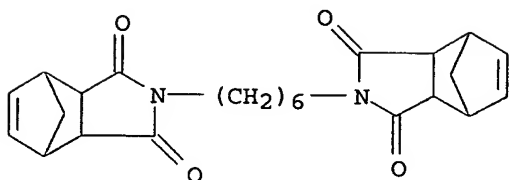


CM 2

CRN 91865-52-0

CMF C30 H36 N2 O4

CCI IDS

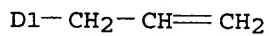
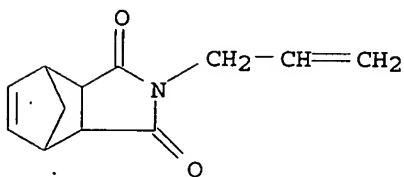


CM 3

CRN 91865-47-3

CMF C15 H17 N O2

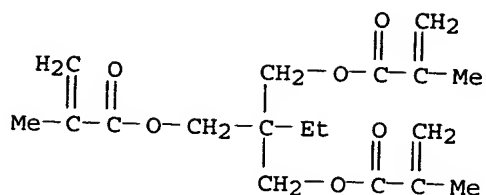
CCI IDS



CM 4

CRN 3290-92-4

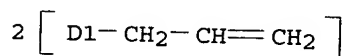
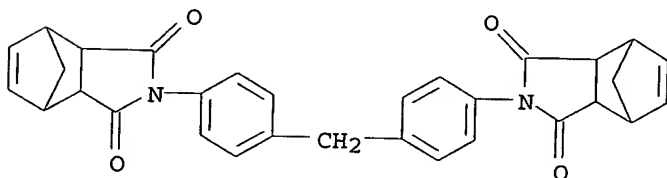
CMF C18 H26 O6



RN 117181-87-0 CAPLUS  
 CN 2-Propenoic acid, 2-[[[3-hydroxy-2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with 2,2'-(methylenedi-4,1-phenylene)bis[3a,4,7,7a-tetrahydro(2-propenyl)-4,7-methano-1H-isoindole-1,3(2H)-dione] (9CI) (CA INDEX NAME)

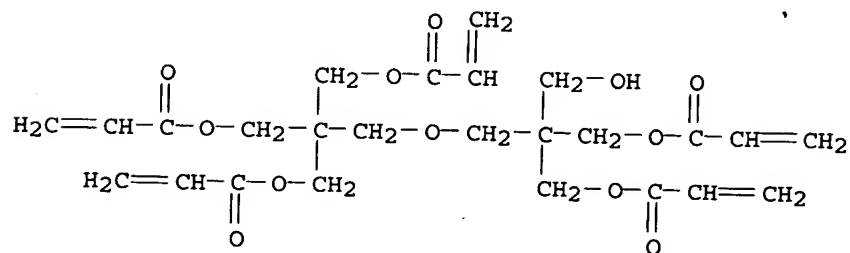
CM 1

CRN 91865-54-2  
 CMF C37 H34 N2 O4  
 CCI IDS



CM 2

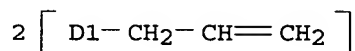
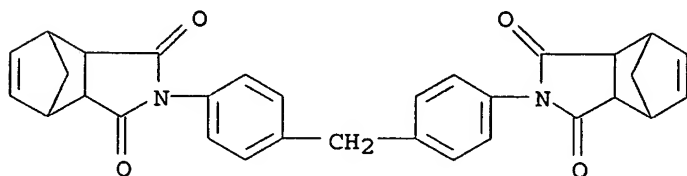
CRN 60506-81-2  
 CMF C25 H32 O12



RN 117181-88-1 CAPLUS  
 CN 2-Propenoic acid, 2-methyl-, 1,4-butanediyl ester, polymer with  
 2,2'-(methylenedi-4,1-phenylene)bis[3a,4,7,7a-tetrahydro(2-propenyl)-4,7-  
 methano-1H-isoindole-1,3(2H)-dione] (9CI) (CA INDEX NAME)

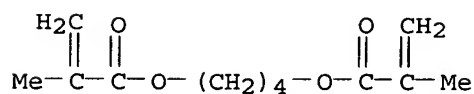
CM 1

CRN 91865-54-2  
 CMF C37 H34 N2 O4  
 CCI IDS



CM 2

CRN 2082-81-7  
 CMF C12 H18 O4

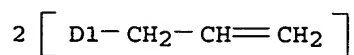
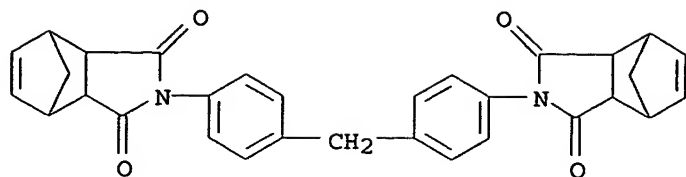


RN 117181-90-5 CAPLUS  
 CN 2-Propenoic acid, 1,4-butanediyl ester, polymer with 2,2'-(methylenedi-4,1-  
 phenylene)bis[3a,4,7,7a-tetrahydro(2-propenyl)-4,7-methano-1H-isoindole-  
 1,3(2H)-dione] (9CI) (CA INDEX NAME)

CM 1

CRN 91865-54-2  
 CMF C37 H34 N2 O4  
 CCI IDS

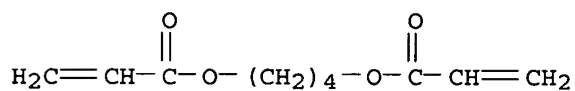




CM 2

CRN 1070-70-8

CMF C10 H14 O4



RN 117181-91-6 CAPLUS

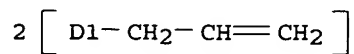
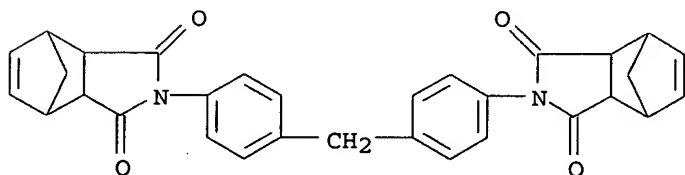
CN 2-Propenoic acid, 2,2-dimethyl-1,3-propanediyl ester, polymer with  
2,2'-(methylenedi-4,1-phenylene)bis[3a,4,7,7a-tetrahydro(2-propenyl)-4,7-  
methano-1H-isoindole-1,3(2H)-dione] (9CI) (CA INDEX NAME)

CM 1

CRN 91865-54-2

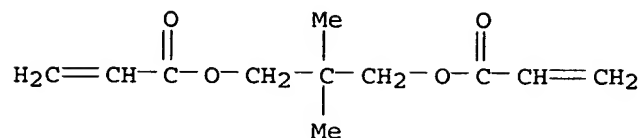
CMF C37 H34 N2 O4

CCI IDS



CM 2

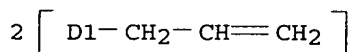
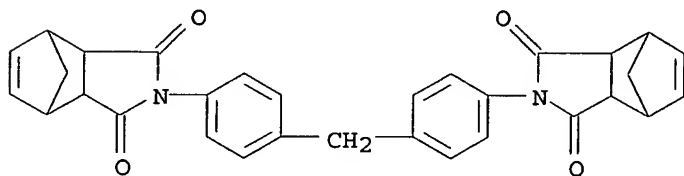
CRN 2223-82-7  
CMF C11 H16 O4



RN 117181-92-7 CAPLUS  
CN 2-Propenoic acid, 1,6-hexanediyl ester, polymer with 2,2'-(methylenedi-4,1-phenylene)bis[3a,4,7,7a-tetrahydro(2-propenyl)-4,7-methano-1H-isoindole-1,3(2H)-dione] (9CI) (CA INDEX NAME)

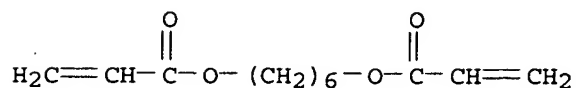
CM 1

CRN 91865-54-2  
CMF C37 H34 N2 O4  
CCI IDS



CM 2

CRN 13048-33-4  
CMF C12 H18 O4



RN 117181-93-8 CAPLUS  
CN 2-Propenoic acid, 2-methyl-, 1,6-hexanediyl ester, polymer with 2,2'-(methylenedi-4,1-phenylene)bis[3a,4,7,7a-tetrahydro(2-propenyl)-4,7-methano-1H-isoindole-1,3(2H)-dione] (9CI) (CA INDEX NAME)

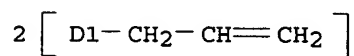
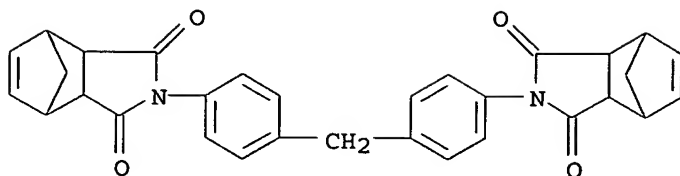
KOROMA EIC1700

CM 1

CRN 91865-54-2

CMF C37 H34 N2 O4

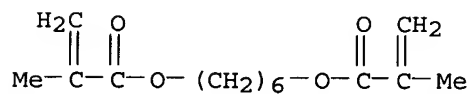
CCI IDS



CM 2

CRN 6606-59-3

CMF C14 H22 O4



RN 117248-17-6 CAPLUS

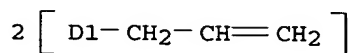
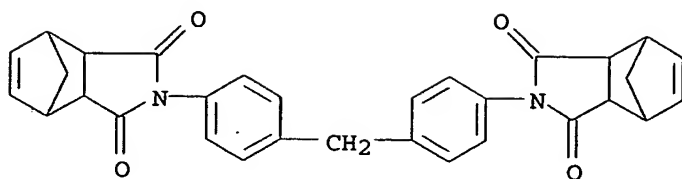
CN 2-Propenoic acid, 2,2-bis[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with 2,2'-(methylenedi-4,1-phenylene)bis[3a,4,7,7a-tetrahydro(2-propenyl)-4,7-methano-1H-isoindole-1,3(2H)-dione] (9CI) (CA INDEX NAME)

CM 1

CRN 91865-54-2

CMF C37 H34 N2 O4

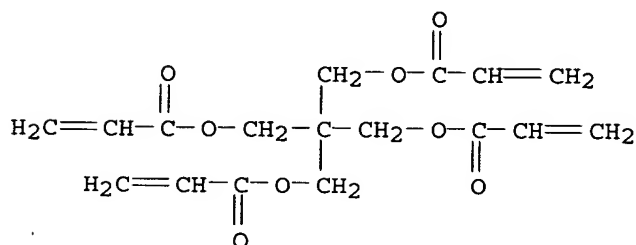
CCI IDS



CM 2

CRN 4986-89-4

CMF C17 H20 O8



- IC ICM C08F226-06  
ICS C08F222-40; C08J005-24
- CC 37-3 (Plastics Manufacture and Processing)  
Section cross-reference(s): 27, 74
- ST allylnorbornenedicarboximide deriv polymer; norbornenedicarboximide allyl deriv polymer; allyl methacrylate copolymer photopolymn; polymn photochem allylimide methacrylate; catalyst polymn photochem cationic
- IT Carbon fibers, uses and miscellaneous  
RL: USES (Uses)  
(allylnorbornenedicarboximide deriv. copolymers reinforced by, manuf. of)
- IT **Resists**  
(photo-, allylnorbornenedicarboximide deriv. copolymers, manuf. of)
- IT Polymerization catalysts  
(photochem., allyl[(benzenesulfonyl)oxy]norbornenedicarboximide, for allylnorbornenedicarboximide derivs. with (meth)acrylate esters)
- IT Polymerization  
(photochem., of allylnorbornenedicarboximide derivs. with (meth)acrylate esters)
- IT 7440-44-0P  
RL: PREP (Preparation)  
(carbon fibers, allylnorbornenedicarboximide deriv. copolymers)

reinforced by, manuf. of)

IT 101483-20-9  
 RL: CAT (Catalyst use); USES (Uses)  
 (catalysts, for photochem. polymn. of allylnorbornene dicarboximide  
 derivs. with (meth)acrylate esters)

IT 117181-84-7P 117181-85-8P 117181-86-9P  
 117181-87-0P 117181-88-1P 117181-89-2P  
 117181-90-5P 117181-91-6P 117181-92-7P  
 117181-93-8P 117181-94-9P 117181-95-0P 117181-96-1P  
 117181-97-2P 117182-91-9P 117248-17-6P  
 RL: PREP (Preparation)  
 (manuf. of, by photochem. polymn.)

IT 101483-19-6P  
 RL: PREP (Preparation)  
 (prepn. of)

IT 5470-11-1, Hydroxylaminehydrochloride  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with allylnorbornene dicarboxylic anhydride)

IT 50984-57-1  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with hydroxylamine)

L12 ANSWER 34 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1987:68851 CAPLUS  
 DOCUMENT NUMBER: 106:68851  
 TITLE: Photocurable flexible inks  
 INVENTOR(S): Nagahara, Shigenori; Abe, Shunzo; Miyake, Hideo  
 PATENT ASSIGNEE(S): Toyobo Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 61203108	A2	19860909	JP 1985-42471	19850304
PRIORITY APPLN. INFO.:			JP 1985-42471	19850304

AB A photocurable solder-resistant ink, useful in manuf. of a flexible printed circuit board, comprises a photocurable prepolymer, a bornyl acrylate deriv.-based photocurable compd., and a photoinitiator. Thus, a flexible polyimide-Cu foil laminate was printed with an ink compn. comprising Ripoxy SP 5003 (bisphenol A-type epoxy acrylate) 29.9, isobornyl methacrylate (I) 20.0, 2-hydroxyethyl methacrylate 7.5, trimethylolpropane triacrylate 7.5, triallyl isocyanurate 10.0, 2-ethylanthraquinone 1.0, talc 20.0, powd. silica 0.1, phthalocyanine green 1.0, a silicone defoamer 1.0, and a leveling agent 2.0 parts and UV-cured to form a resist layer exhibiting crosscut adhesion test 100/100, max. no. of flexion before crack formation (diam. 4 mm) 100, solder resistance (at 260.degree.) .gtoreq.60 s, and resistance 2 .times. 1014 .OMEGA.. An ink not contg. I gave a layer withstanding solder test

.ltoreq.10 s.

IT 106671-00-5 106671-01-6 106671-02-7  
106679-65-6 106686-47-9

RL: USES (Uses)

(inks, photocurable, flexible, solder-resistant, in manuf. of printed circuit boards)

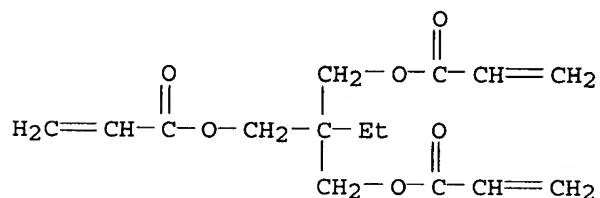
RN 106671-00-5 CAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, 2-hydroxyethyl 2-propenoate, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate and 1,3,5-tri-2-propenyl-1,3,5-triazine-2,4,6(1H,3H,5H)-trione (9CI) (CA INDEX NAME)

CM 1

CRN 15625-89-5

CMF C15 H20 O6

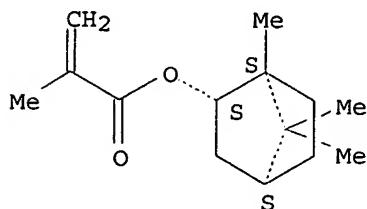


CM 2

CRN 7534-94-3

CMF C14 H22 O2

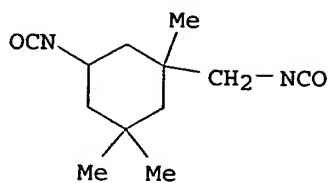
Relative stereochemistry.



CM 3

CRN 4098-71-9

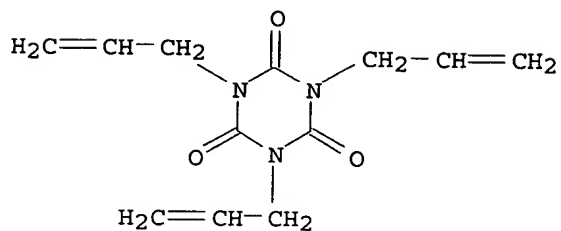
CMF C12 H18 N2 O2



CM 4

CRN 1025-15-6

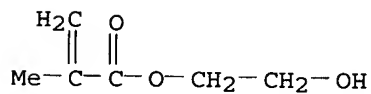
CMF C12 H15 N3 O3



CM 5

CRN 868-77-9

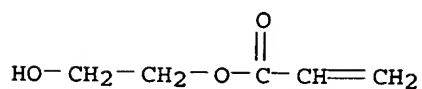
CMF C6 H10 O3



CM 6

CRN 818-61-1

CMF C5 H8 O3



RN 106671-01-6 CAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with

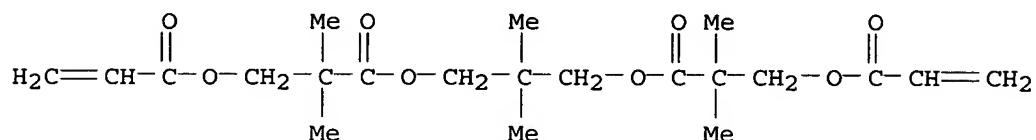
KOROMA EIC1700

(chloromethyl)oxirane polymer with 4,4'-(1-methylethylidene)bis[phenol] di-2-propenoate, (2,2-dimethyl-1,3-propanediyl)bis[oxy(2,2-dimethyl-3-oxo-3,1-propanediyl)] di-2-propenoate, 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, 2-hydroxyethyl 2-propenoate, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane and exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate (9CI)  
(CA INDEX NAME)

CM 1

CRN 90780-31-7

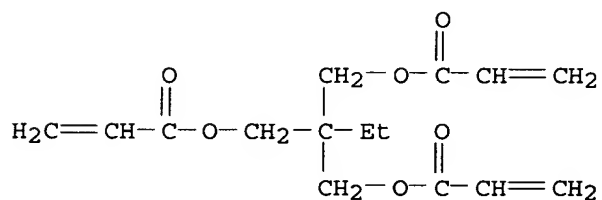
CMF C21 H32 O8



CM 2

CRN 15625-89-5

CMF C15 H20 O6



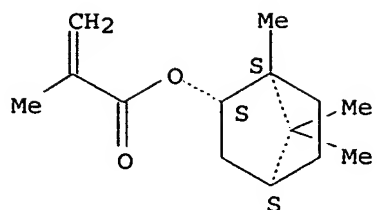
CM 3

CRN 7534-94-3

CMF C14 H22 O2

Relative stereochemistry.

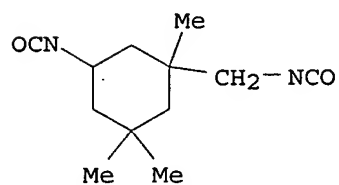




CM 4

CRN 4098-71-9

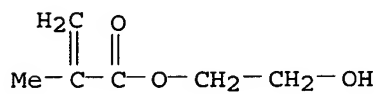
CMF C12 H18 N2 O2



CM 5

CRN 868-77-9

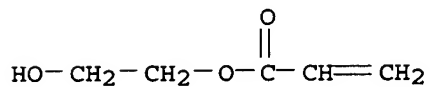
CMF C6 H10 O3



CM 6

CRN 818-61-1

CMF C5 H8 O3

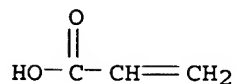


CM 7

CRN 53814-24-7  
CMF (C15 H16 O2 . C3 H5 Cl O)x . 2 C3 H4 O2

CM 8

CRN 79-10-7  
CMF C3 H4 O2

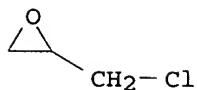


CM 9

CRN 25068-38-6  
CMF (C15 H16 O2 . C3 H5 Cl O)x  
CCI PMS

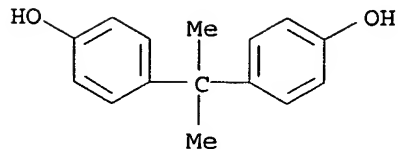
CM 10

CRN 106-89-8  
CMF C3 H5 Cl O



CM 11

CRN 80-05-7  
CMF C15 H16 O2



RN 106671-02-7 CAPLUS  
CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with  
2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate,  
2-hydroxyethyl 2-propenoate, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-  
trimethylcyclohexane, (1-methylethylidene)bis[(2,6-dibromo-4,1-  
phenylene)oxy(2-hydroxy-3,1-propanediyl)] di-2-propenoate,

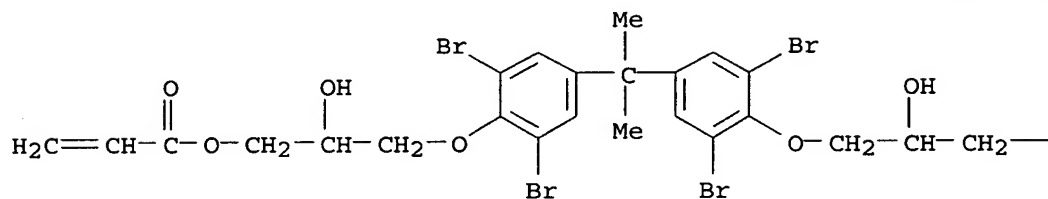
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate and  
1,3,5-tri-2-propenyl-1,3,5-triazine-2,4,6(1H,3H,5H)-trione (9CI) (CA  
INDEX NAME)

CM 1

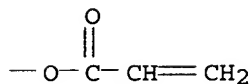
CRN 66696-45-5

CMF C27 H28 Br4 O8

PAGE 1-A



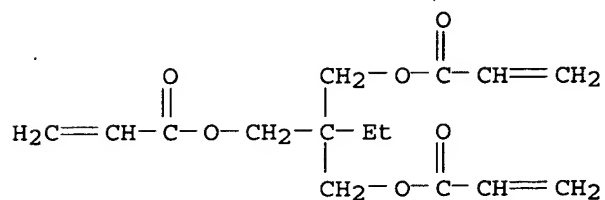
PAGE 1-B



CM 2

CRN 15625-89-5

CMF C15 H20 O6

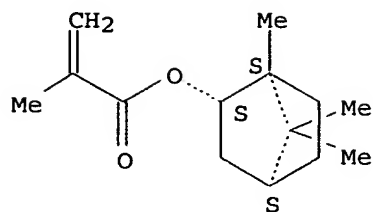


CM 3

CRN 7534-94-3

CMF C14 H22 O2

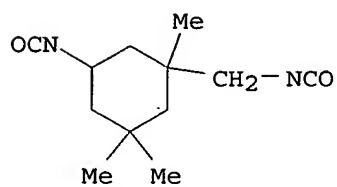
Relative stereochemistry.



CM 4

CRN 4098-71-9

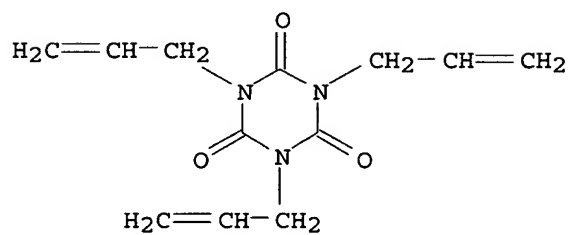
CMF C12 H18 N2 O2



CM 5

CRN 1025-15-6

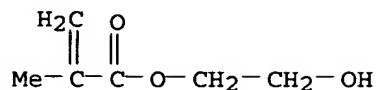
CMF C12 H15 N3 O3



CM 6

CRN 868-77-9

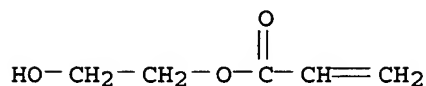
CMF C6 H10 O3



CM 7

CRN 818-61-1

CMF C5 H8 O3



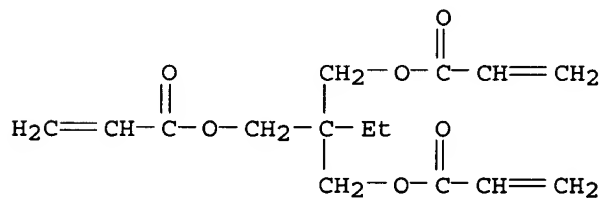
RN 106679-65-6 CAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with (chloromethyl)oxirane polymer with 4,4'-(1-methylethylidene)bis[phenol] di-2-propenoate, 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate and 1,3,5-tri-2-propenyl-1,3,5-triazine-2,4,6(1H,3H,5H)-trione (9CI) (CA INDEX NAME)

CM 1

CRN 15625-89-5

CMF C15 H20 O6

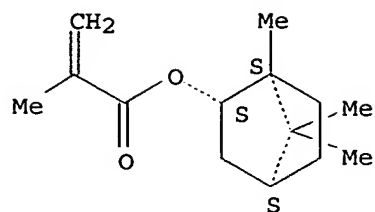


CM 2

CRN 7534-94-3

CMF C14 H22 O2

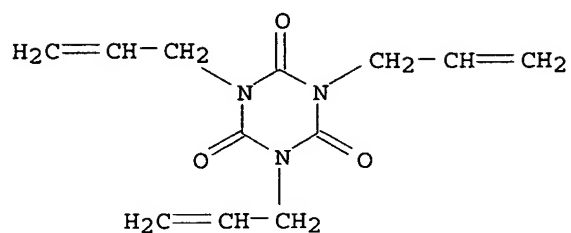
Relative stereochemistry.



CM 3

CRN 1025-15-6

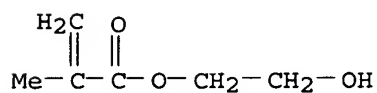
CMF C12 H15 N3 O3



CM 4

CRN 868-77-9

CMF C6 H10 O3



CM 5

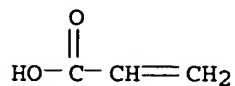
CRN 53814-24-7

CMF (C15 H16 O2 . C3 H5 Cl O)x . 2 C3 H4 O2

CM 6

CRN 79-10-7

CMF C3 H4 O2



CM 7

CRN 25068-38-6

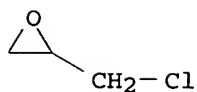
CMF (C15 H16 O2 . C3 H5 Cl O)x

CCI PMS

CM 8

CRN 106-89-8

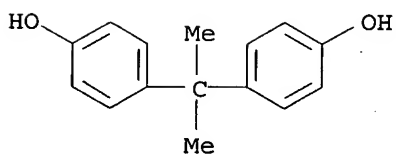
CMF C3 H5 Cl O



CM 9

CRN 80-05-7

CMF C15 H16 O2



RN 106686-47-9 CAPLUS

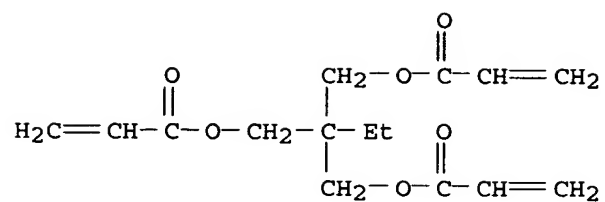
CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with (chloromethyl)oxirane polymer with 4,4'-(1-methylethylidene)bis[phenol] di-2-propenoate, 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, 2-hydroxyethyl 2-propenoate, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate and 1,3,5-tri-2-propenyl-1,3,5-triazine-2,4,6(1H,3H,5H)-trione (9CI) (CA INDEX NAME)

CM 1

CRN 15625-89-5

CMF C15 H20 O6

KOROMA EIC1700

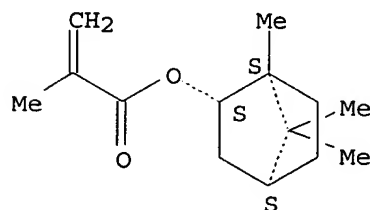


CM 2

CRN 7534-94-3

CMF C14 H22 O2

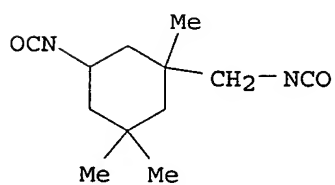
Relative stereochemistry.



CM 3

CRN 4098-71-9

CMF C12 H18 N2 O2

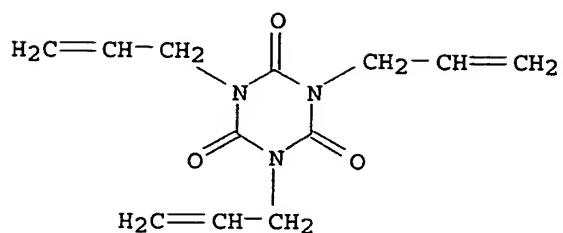


CM 4

CRN 1025-15-6

CMF C12 H15 N3 O3

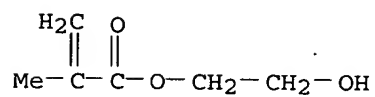




CM 5

CRN 868-77-9

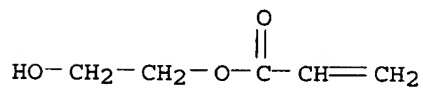
CMF C6 H10 O3



CM 6

CRN 818-61-1

CMF C5 H8 O3



CM 7

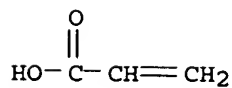
CRN 53814-24-7

CMF (C15 H16 O2 . C3 H5 Cl O)x . 2 C3 H4 O2

CM 8

CRN 79-10-7

CMF C3 H4 O2



CM 9

CRN 25068-38-6

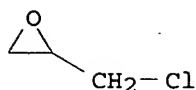
CMF (C15 H16 O2 . C3 H5 Cl O)x

CCI PMS

CM 10

CRN 106-89-8

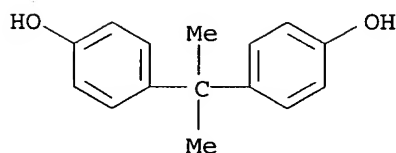
CMF C3 H5 Cl O



CM 11

CRN 80-05-7

CMF C15 H16 O2



IC ICM C08F220-10

ICS C08F002-48; C08F220-18; C09D011-10; H05K003-28

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 76

ST epoxy acrylate photocurable ink; isobornyl methacrylate photocurable ink; hydroxyethyl methacrylate photocurable ink; methylolpropane triacrylate photocurable ink; allyl isocyanurate photocurable ink; copper flexible printed circuit board; polyimide flexible printed circuit board; solder resistant photocurable ink

IT Polyimides, uses and miscellaneous

RL: USES (Uses)

(films, copper foil laminates, solder-resistant inks for, in manuf. of flexible printed circuit boards)

IT Soldering

(resistance to, of inks contg. epoxy or urethane acrylate and isobornyl acrylate, UV-curable)

IT Inks

(photocurable, epoxy or methane acrylates contg. isobornyl acrylate, flexible, solder-resistant)

IT Electric circuits

(printed, flexible, inks for, epoxy or urethane acrylates contg.  
isobornyl acrylate as, solder-resistant)

IT 7440-50-8, Copper, uses and miscellaneous

RL: USES (Uses)

(foil, polyimide film laminates, solder-resistant inks for, in manuf.  
of flexible printed circuit boards)

IT 106671-00-5 106671-01-6 106671-02-7

106679-65-6 106686-47-9

RL: USES (Uses)

(inks, photocurable, flexible, solder-resistant, in manuf. of printed  
circuit boards)